Public – Private
Framework for Reforestation
in
Afghanistan

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In February 2008 a three-day United States Agency for International Development (USAID) Forestry Partners Workshop was organized by the United States Department of Agriculture (USDA), the Afghanistan Ministry of Agriculture, Irrigation, and Livestock, and the United Nations Office for Project Services/Afghan Conservation Corps, at the request of and with the support of the USAID/Afghanistan. In addition to these organizations, participants included Provincial Foresters, staff from Kabul University, local and international NGOs, the National Environmental Protection Agency, United Nations agencies, and others, as well as USDA agricultural advisors from Provincial Reconstruction Teams. The ideas presented in this report were expressed and discussed at the workshop.

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Table of Contents

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Overview and Purpose

Many Afghans can remember a time when much of the landscape hosted beautiful orchards, green picnic areas, and natural woodlands and forests. Decades of war, drought, years of drought, and un-sustainable cutting of trees, and overgrazing have all contributed to the disappearance of trees all around the country.

Loss of vegetation has caused watersheds to become very degraded. Water has become less available when people need it, and dust fills the air as soil is blown away from un-vegetated land. Reforestation is needed to help heal the land and provide resources to the people.

The purpose of this booklet is to serve as a planning guide for any person, community, organization, or agency interested in implementing reforestation in Afghanistan. Many of the ideas presented here were expressed and discussed at the Afghanistan Forestry Partners Workshop held in Kabul, in February 2008.

The need for reforestation is so great and the task so large that special collaboration and is needed amongst interested groups and individuals, both public sector and private sector, who want to help Afghanistan to be a greener and more prosperous country.

Interested parties can work as partners, each bringing whatever they have to offer to the reforestation effort.

Some partners may have places where trees can be planted. Others may have people who can do the work, and yet others may have payments that can be offered to get the work done. To facilitate this collaboration we have proposed a framework for reforestation that provides a simple way to identify the, what are the resources that interested parties need or already have.

Afghan Conservation Corps workers plant trees in a woodland

This framework for reforestation has three main parts:

- Why plant trees?

- Where to plant trees, and who will plant them?

- What to plant?

People need reasons to plant trees. Under the "**why plant trees**" part of the framework, planners of reforestation

Overview and Purpose

projects identify the reasons for planting trees in a particular area, and the incentives that may be available to motivate people to plant the trees. Where you plant trees, and who plants them, are often closely linked.
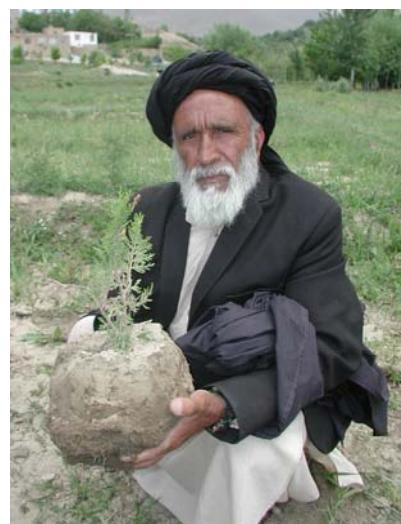
The "**where to plant trees, and who will plant and maintain them**" part reviews the variety of different types of places where reforestation can be done, and who may be able or willing to do the planting at a particular type of place. When possible, it is preferable for those who are to plant and maintain the trees to be live as close as possible to the planting site.

The "**what to plant**" section discusses the importance of identifying or developing good sources of planting stock. In planning reforestation projects, it is recommended to look at both public and private sources of planting stock.

Do not plant a species of tree just because it is available. First, determine what you want to accomplish, and which species or group of species would be best.

In addition to the three main parts of the framework, this booklet has a section "**Planning for Reforestation**" that summarizes the resources needed and basic steps to be considered when organizing reforestation.

Also included is a chart that may be helpful when meeting with partners to identify what resources they can offer. Maybe one partner has places to offer for reforestation, while another has people who can do the work. There may be a partner who does not have places or people, but does have planting material. Another partner may not have any of those resources, but may have funds to pay for people to work, or to buy planting material.

Finally, the booklet concludes with a **Summary of Steps** on bringing the "where and who," "why" and "what" together into a simple framework for reforestation.

Why Plant Trees?

What are some reasons for why people will plant trees? People will plant trees for a variety of reasons:

- **Fruits**
- **Nuts**
- **Construction poles and wood**
- **Windbreaks**
- **Beautification**
- **Stopping soil erosion**
- **Fodder**
- **Picnic areas and shade**
- **Stabilizing hillsides**
- **Preventing landslides and avalanches**
- **Improving soil fertility**
- **Medicines**
- **Fuelwood**
- **Wildlife**

These are all good reasons to plant trees. However, people may still need **incentives** to plant the trees as well as additional incentives to maintain and protect the trees.

The type of incentive depends on the type or purpose of the planting. The reasons behind planting are often linked to the incentives used to compensate people for the work

Without addressing the immediate needs of the local people, there will be little that encourages them to take care of the plantings.
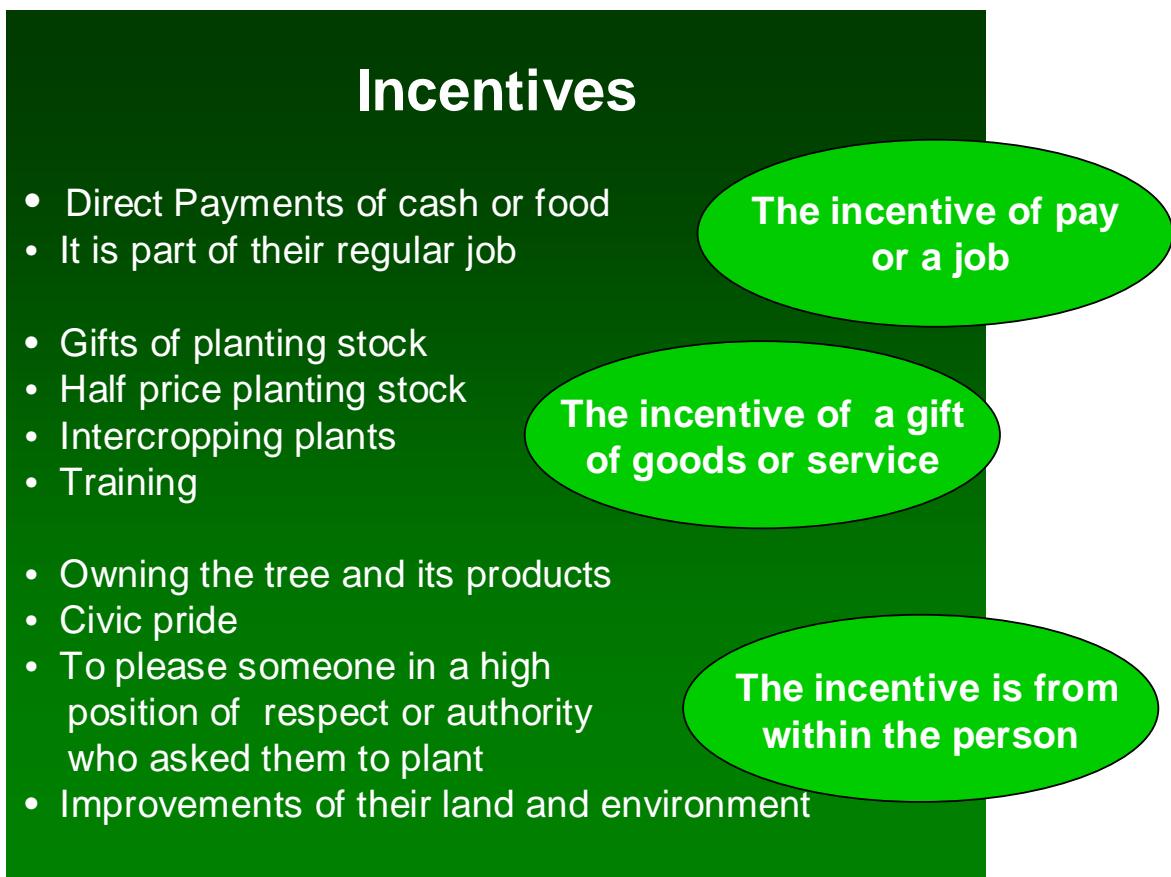
When the local people have a stake in the planting effort, there are many more options for compensating for planting, maintenance and protection.

In planning reforestation projects it is important to consider which incentives are most appropriate for who will be planting, and where.

Why Plant Trees?

Although direct payment may be the most familiar type of incentive, there are other incentives which may also be effective.

Incentives

- Direct Payments of cash or food
- It is part of their regular job

  The incentive of pay or a job

- Gifts of planting stock
- Half price planting stock
- Intercropping plants
- Training

  The incentive of a gift of goods or service

- Owning the tree and its products
- Civic pride
- To please someone in a high position of respect or authority who asked them to plant
- Improvements of their land and environment

  The incentive is from within the person

Why Plant Trees?

For some incentives the benefit is immediate, while for some the real benefit is deferred

- Direct Payments of cash or goods
- It is part of their regular job

- Gifts of planting stock
- Half price planting stock
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- Owning the tree and its products
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- Improvements of their land and environment

The benefits of these incentives are immediate

The real benefits of these incentives may come over time

- Deferred incentives produce a better reforestation effort.
- Compensation over time results in the local population caring more for the plants.
- **BUT**, deferred incentives require creativity and can be difficult to effectively implement.
- Immediate compensation is easier to implement but requires continued funds to support maintenance and protection efforts

All of these incentives can work well in some situations and poorly in other situations. Here are a few lessons that have been learned in various reforestation efforts:

Lesson: It is critical to be very selective in choosing the recipient of reforestation assistance where the incentive is over time. They need to be able to appreciate long deferred benefits for immediate work.
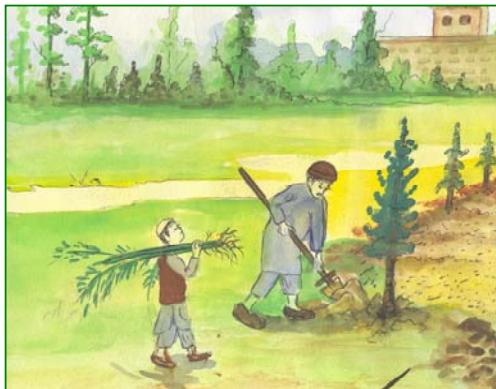
Lesson: Planting stock that is given away may not be valued by the recipient and not maintained. Recipient should pay something (labor, trade, money) for planting stock so that they will maintain and protect the plantings.

Lesson: Plantings that take a while to produce a benefit for the local population can be augmented with intercropping that produces a more immediate payoff for the people's maintenance and protection efforts.

Why Plant Trees?

Even when someone receives a direct benefit from planting trees, they may still need an additional incentive. If the payoff is far away in time, such as the harvest of timber from a planted tree, you may need some additional incentive. If you are planning a reforestation project you will need to talk with the people who you want to do the planting so that you can determine the best incentives to use. Remember, you need the people not only to plant the trees, but to maintain them for awhile too.

If the planting site is close, such as at the people's homes you may need fewer incentives.

If the planting site is far away in distance you may need a strong incentive, especially if you need people to maintain the trees for awhile.

You may need a combination of incentives to get the best results.

Steps to Selecting Incentives

1. Determine **where** you want to plant trees and **who** is available to plant them.

2. Identify which incentives may be most useful for the groups of people in the places you want to plant trees.

3. Determine **why** you want trees planted in this place? Are you trying to stop soil erosion? Are you trying to provide fruit and shade for people's houses? Are you trying to make a picnic area? Most importantly, **determine why people in that place might want to plant trees**. Do you and the people have the same reasons?

4. Once you have determined why you and the people want trees in this place, determine **what** kinds of trees you will need for this purpose. Often this will be an important part of selecting the right incentive or combination of incentives. The incentives will have to be strong enough for the people to put their labor into planting and maintaining the trees, and their water into watering the trees.

5. Select the incentives. Check with **who** you will have doing the planting to make sure that your incentives will motivate them to plant and maintain the trees.

Where to Plant Trees, and Who will Plant and Maintain them?

There are many types of places **where** people can plant trees:

- **Home compounds**
- **Private lands**
- **Agricultural lands**
- **Hillsides**
- **Marginal lands**
- **Riparian areas (sides of rivers)**
- **Desertified areas**
- **Deforested areas**
- **Roadsides**
- **Mosques**
- **Shrines**
- **Sports fields**
- **Factories and industries**
- **Public parks and green areas**
- **Schools and universities**
- **Clinics and hospitals**
- **Government lands – army bases, airports, official buildings**
- **Other public locations**

Home compounds and farmland can be good places to get people to plant trees and maintain them.

All around the community there are good places.

Important public places are good for planting trees.

There are different groups of people **who** may want to plant and maintain trees

Governmental and
non-governmental organizations

Women and families

Communities

Local farmers

School students

Paid workers

Where to Plant Trees and

Who will Plant and Maintain them?

Once you have determined where you want to plant trees you can start identifying the different types of people you might be able to recruit to do the planting. You will probably have a good chance of success with getting local people to plant local areas, with the right incentives. However, places that are further away from homes and villages may need reforestation very much. These places may need a strong effort by communities in the area, as well as the government and NGOs.

Where	Who
Home compounds	Women, children, and other family members
Private lands	Local farmers, women
Agricultural lands	Local farmers, women
Mosques	Local people and students
Shrines	Local people
Sports fields	Local people

Local people planting at local places they use

Where	Who
Hillsides	Communities, NGOs, Government
Riparian areas (sides of rivers)	Communities, NGOs, Government
Marginal lands	Communities, NGOs, Government
Deforested areas	Communities, NGOs, Government
Desertified areas	Communities, NGOs, Government

These places may be most in need of reforestation; These places may also be more distant

Where	**Who**
Roads	Local people, communities, NGOs, businesses, and Government
Public green areas and picnic areas	Local people, businesses, communities, NGOs, and Government
Clinics and hospitals	Communities, NGOs, Government
Schools and universities	Students, local people, NGOs, Government
Factories and businesses	Owners, local workers
Army bases and airports	Army staff or troops
Other buildings	related office staff

Public buildings and lands, as well as private businesses are good places to begin public-private collaboration

Local people with trained supervision can be effective paid workers at many different paces needing reforestation.

Girls planting trees at their school – they supplied the "where" and the "who" while someone else provided the "what" – the plating material

Where to Plant Trees and

Who will Plant and Maintain them?

Barren hillsides and marginal lands are among the most difficult places to do reforestation, yet they are among the places most in need. Work crews will need to be supervised by trained leaders who can ensure that the trees are planted properly to survive.

Planting trees in riparian areas (sides of streams and rivers) helps to stabilize stream banks, decrease soil erosion, improve water quality, and reduce risk of damage from flooding.

Severely degraded woodlands and forests may be rehabilitated by focusing on expanding those areas still with trees.

Less degraded woodlands can be improved by increasing the density of the woodland by planting trees in some of the open spaces, increasing the number of trees per hectare.

Local agricultural lands can be improved by encouraging farmers to plant trees as windbreaks, and for fruit, nuts, fuel, and fodder.

Steps to Selecting Where to Plant and Who will Plant

1. Determine where you would like to have trees planted, and for what purposes.

2. Determine if the places you want to plant trees will accomplish what you want (such as watershed rehabilitation, stooping soil erosion, beautification, fruit production, or other).

3. Identify who will be potential planters of these trees.

4. Determine why these people would want to plant and maintain trees. Do you have the right incentives to motivate these people to plant the trees where you want them?

5. Determine if where you want to plant trees is also a place where they can be maintained (watered and weeded)?

6. Determine if the people who will plant the trees are also the people who will maintain them, or will they be a different group of people?

What to Plant?

The selection of what to plant depends both on what it is you want to accomplish by planting trees, and on what types of species are available.

The planting material can be:

- **Seeds**
- **Seedlings**
- **Saplings**
- **Cuttings**

Nursery manager growing trees to be planted as bareroot seedlings.

Seeds are used to grow seedlings in nurseries, and may also be used in direct seeding at planting sites.

Seedlings may also be produced in containers such as polybags.

Nursery staff with cuttings they are preparing for use in planting.

Saplings are used when a more mature plant is needed.

Local sources of native and naturalized tree species and varieties will usually be better adapted for local planting sites. However, properly selected species and varieties from other locations with similar climate and soils may also be suitable.

"What" you plant is very strongly related to "why" you plant. Do you want to provide sources of income? Do you want to stop soil erosion? Do you have a combinations of reasons?

"What you plant is strongly related to "where" you plant. Will these trees be planted in a place where they have to survive without much maintenance? Will these trees be planted in a place where they might be grazed by animals?

Sources of planting material

Public sources –
• Government nurseries (Ministry of Agriculture, Irrigation, and Livestock)

Private sources –
• Individuals and businesses
• Families
• Communities
• NGOs

Nurseries should plan to grow trees with the "what" the "why" and the "where" to plant already known
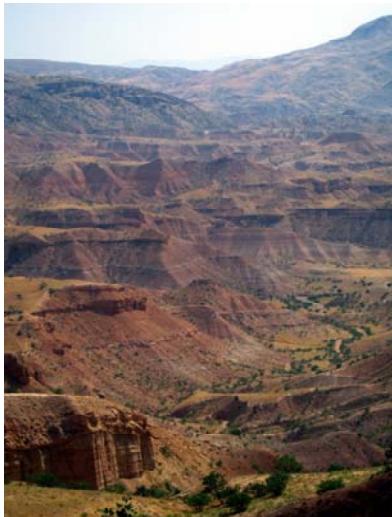
Encourage development of private sources –
   reforestation projects can do this by planning
   one, two, and three years in advance and contracting
   private sources, or letting private sources know what species and
   type of planting material will be desired for purchase.

What to Plant?

Community – based forest management brings the "why" the "where" the "who" and the "what to plant" all together

Example: Community – based natural pistachio forest management in Samangan

Community – established forest management committees protect their pistachio forest, limit grazing, manage harvest of nuts, and plant and maintain new pistachio trees. Afghan Conservation Corps and Ministry of Agriculture, Irrigation, and Livestock provide assistance.

Communities realized a 65% increase in income after first year of management.

Steps for Selecting What to Plant?

1. First, survey **what** is available. This could be facilitated by an annual compilation of a list of the major sources of planting material available in the country. This could be done possibly by the Ministry of Agriculture, Irrigation, and Livestock, or an interested organization.

2. Determine **why** you want to plant trees and **where** you want to plant them.

3. Determine **who** will be planting the trees.

4. Make sure that if the people who will plant the trees have to protect and maintain them that they support what has been selected. Include the people in the selection.

5. Select the type of planting material (seeds, seedlings, saplings, or cuttings) based on the site, the logistics of planting (having proper transportation for the material, water, and tools), protection of the plants, and other needs.

6. Plan ahead – work with nurseries to have than grow their trees based on **where** you want to plant them and on **why** you want them. When a tree is grown in a nursery, it should be with a purpose and place in mind.

7. Work with private nurseries so that they can provide some of the planting material to meet public needs.

Poplar cuttings are good planting material to plant to along streambanks to help protect them from erosion

Planning for Reforestation

When planning for reforestation check on the availability of these main resources you will want or need:

- **People**
    - ❑ **Public (government agencies or organizations**
    - ❑ **Private (communities, local organizations, NGOs)**

- **Places**
    - ❑ **Public**
    - ❑ **Private**

- **Planting material**
    - ❑ **Public sources**
    - ❑ **Private sources**

- **Payment**
    - ❑ **for People**
    - ❑ **for Planting material**
    - ❑ **for transport**

Also needed is
- **Knowledge**
    - ❑ **of species**
    - ❑ **of planting material**
    - ❑ **of how to organize and supervise** people for effective tree planting and maintenance

Planning for Reforestation

Phases of Reforestation

- Selection of species and planting material
- Training of planting crews
- Organizing and scheduling of what will happen where and when
- Preparation of planting site as needed
- Have materials to keep roots of seedlings and saplings moist
- Have water and tools ready for planting

Preparation

- Lifting or collecting of planting material
- Transport (of planting material, and if necessary people)
- Planting and watering
- Monitoring to ensure that trees are being planted correctly

Planting

- Watering
- Protection
- Monitoring to check on survival; may have to replace some plantings

Maintenance

Remember – do not take more seedlings or saplings to the planting site than you can plant in the time you have. A lot of time and resources have been invested in each seedling and sapling. You do not want to waste that investment by taking too many to the site and having them dry out and die.

Planning for Reforestation

Reforestation Partnership Worksheet

	Partner:_____	Partner:_____
Where: **Private or Public site**		
Who: **Private or Public**		
What: **Private or Public sources**		
Why: **Purpose** **Incentives**		

Planning for Reforestation

Partner:_____   **Partner:_____**

Summary of Steps

1. Determine **why** you want to plant trees

2. Determine **where** you want to plant trees and who will plant them.

3. Match the **who** and the **why –** are the reasons you want to plant trees understood and supported by the people who will plant them? Do you have the correct incentives to motivate the people?

4. Identify what species and what type of planting material planting you want. Match the **what** and the **why** – if you want to stabilize hillsides, or provide income for local people, or whatever the purpose do you have the correct species? Match the **what** and the **who** – do the people agree that these are the species they are willing to maintain?

5. Create opportunities – meet with potential partners in reforestation, bringing whatever resources you have -- you alone do not need to have them all. Often if one partner for example comes forward with a place to plant trees, maybe other partners can provide the people, or the planting material, or the payments, or the knowledge.

6. Empower local communities. Community-based Forest Management can bring the **where** and the **who**, the **why**, and the **what** all together.