

Rehabilitating Afghanistan's Natural Resources

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Hernández G. 2011. Rehabilitating Afghanistan's natural resources. In: Riley LE, Haase DL, Pinto JR, technical coordinators. National Proceedings: Forest and Conservation Nursery Associations—2010. Proc. RMRS-P-65. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station: 46-48. Available at: http://www.fs.fed.us/rm/pubs/rmrs_p065.html

Abstract: The Soviet Union invaded Afghanistan in late 1979. During the next 23 years, the war between the Mujahideen Resistance and the Soviet forces, the ensuing civil war, and eventual take over by the Taliban caused enormous harm to the natural resources of Afghanistan. In 2003, the USDA Forest Service (USFS) was asked by the USDA Foreign Agricultural Service to provide technical assistance to the Afghan Government to rehabilitate tree seedling nurseries. The past 7 years have seen severe drought that has significantly reduced agricultural production. The work of the USFS National Reforestation, Nurseries, and Genetic Resources has been to help the Afghan government rebuild their natural resources.

Keywords: Agricultural Development Teams, Afghan Conservation Corps, Afghanistan, natural resources

Afghanistan Resources

Afghanistan is a landlocked country bordered by China, Russia, Iran, and Pakistan. It has had the misfortune of lying in the crossroads where Europe and Asia meet. During the past 1400 years, it has been invaded by most major world conquerors, including Alexander the Great, Attila the Hun, Genghis Khan, the Moguls, the British, and the Soviets.

Afghanistan can be compared to Texas in many ways. The area of Afghanistan is 648,000 km² (250,000 mi²) and the area of Texas is 694,000 km² (268,000 mi²); the population of Afghanistan is 24.6 million and the population of Texas is 32.7 million. In Afghanistan, the average rainfall is 33 cm (13 in), while in west Texas, the average rainfall is 25 cm (10 in). A major difference between Afghanistan and Texas is the amount of the population employed in agriculture. In Afghanistan, 80% of the population is employed in agriculture; in Texas, only 2% of the population is employed in agriculture.

Afghan Conservation Corps

The 1979 invasion by the Soviet Union destroyed much of the fabric of Afghan civil society, but caused only limited damage to the natural resources. As the fighting between the Mujahideen Resistance and the Soviets increased, the Soviets began to remove trees from urban areas and along road sides in an effort to protect themselves from ambush. Over time, Kabul was transformed from an urban green oasis to an urban combat zone. During the civil war that broke out after the Soviet pullout, large areas of Afghanistan were reduced to rubble. War lords destroyed areas that they could not control as a means of denying their adversaries any advantage. By the time the US military invaded Afghanistan in 2002, Kabul and most other urban areas resembled the post-apocalyptic scenes found in Hollywood movies.

Prior to the US invasion, Afghanistan had endured 5 years of drought. Agricultural production had been drastically reduced as a result of this drought. Afghanistan endured this drought despite having lost almost 50% of its irrigated land between 1979 and 2002. Rain-fed cereal production fell to about 10% of production in a normal rainfall year and approximately 50% of orchards were lost due to the severe drought. This drought severely tested the resilience of rural Afghans. A comparison can be made between the situation in Afghanistan in 2003 and the situation the US faced as a result of the "Dust Bowl" that occurred between 1929 and 1941 at the height of the Great Depression.

To recover from its Dust Bowl, the US Department of Agriculture (USDA) developed a comprehensive soil conservation program that was implemented by the Civilian Conservation Corps (CCC). The CCC was a job creation program for unemployed men, providing vocational training through the performance of useful work related to conservation and development of natural resources. Between 1933 and 1942, the CCC outplanted more than 3 billion trees, built more than 156,000 km (97,000 mi) of roads, erected 3,700 fire towers, and restored 34.2 million ha (84.4 million ac) of agricultural land. They developed and improved state and national parks, built fish hatcheries, and are considered the start of modern conservation practices. The CCC was so successful that it has served as the inspiration for the Job Corps and Ameri-Corp, and many states have since developed their own Conservation Corps.

In 2003, the US State Department offered funding to the Afghan government to develop an Afghan Conservation Corps (ACC). When the Afghan government accepted this offer, the US State Department requested the US Secretary of Agriculture to provide technical assistance to the Afghans to develop and operate an ACC. The Foreign Agricultural Service (FAS) is the USDA agency charged with fulfilling State Department agricultural and forestry technical assistance requests. The FAS asked the USDA Forest Service (USFS) to provide forest nursery experts to assist with the development of the ACC. This request came 70 years after the USFS had been asked by the USDA to develop and operate the CCC.

Technical Assistance to the ACC

In March 2003, members of a team composed of USFS and FAS specialists travelled to Kabul and met with members of the Afghan Ministry of Irrigation Water Resources and Environment (MIWRE) and the Afghan Ministry of Agriculture and Animal Husbandry (MAAH). The UN Office for Project Services (UNOPS) was asked to provide operational management and support to the project. The combined team of MIWRE, MAAH, UNOPS, USFS, and FAS conducted a natural resource assessment in order to develop objectives and a training plan for the ACC.

In July 2003, the USFS and FAS team returned to Afghanistan to help plan and facilitate the start-up of the ACC. The ACC Inception Workshop was designed to provide participants with the training they would need to complete job creation projects in their provinces. Participants from 17 provinces received training in project development, seed handling, nursery management, and tree planting. During the workshop, participants were assisted with writing project proposals that were evaluated by UNOPS. As a result, 56 projects from 17 provinces were selected and funded and, by December 2003, contracts for 346,000 labor days had been paid.

The USFS and FAS team returned to Afghanistan in November 2003. During this technical assistance visit, the team helped the ACC develop goals and objectives, a work plan, and a strategy to meet their goal and objectives. Additionally, the team determined the technical expertise the ACC needed to implement nursery production and tree-planting projects. A training and development plan was developed

to ensure that the ACC staff had the necessary skills they would need to be successful. Training for MIWRE and MAAH personnel who would be providing project oversight was also developed.

The objectives that were established for the ACC were: to provide jobs to thousands of Afghans; to implement conservation actions, especially reforestation; and to establish and foster a commitment to conservation in the Afghans who participated in ACC projects. The team developed a proposal for how the USDA would deliver needed technical expertise to the ACC and sought funding from the State Department to complete this training.

In March 2004, the USFS team returned to Kabul to provide training to the key MIWRE and MAAH personnel that were providing oversight to the ACC. The training of the ACC staff began after the ministry training was completed. The ACC staff travelled to the US where the training focused on seed processing, nursery production, tree planting, and conservation education. The majority of the training took place in the Great Basin. This region of the US is geologically and climatically similar to the Central Plain of Afghanistan. Both of these regions are located between two mountain ranges that run north to south. The annual precipitation in both of these regions comes as winter snow, with light rain occurring in the spring. The ACC staff was quite surprised to find that the topography, climate, and soils of the Great Basin were so similar to those found in Afghanistan. One of the highlights of the training was a visit to the USFS Lucky Peak Nursery located east of Boise, ID. The Lucky Peak nursery was selected to visit because the soils and physical characteristics are very similar to those found at the Paghman Nursery located southeast of Kabul.

In March 2005, the staff of the ACC returned to the US for additional training. The focus of this training was on conservation education and an examination of the conservation corps programs in the US. The three types of conservation corps that were visited included: a program operated by a non-governmental organization; a state program that was operated as an alternative method of completing high school; and a live-in program where trainees lived on a center.

The USFS team developed training materials that were translated into Dari and Pashto, the two dominant languages used in Afghanistan. Two training manuals were also developed—*Raising Forest Seedlings in Afghanistan* and the *Afghan Forest Nursery Manual*. The USFS team also worked with ACC staff to develop seed harvesting and seed testing protocols, guidelines for the deployment of native Afghan species, and nursery management procedures.

ACC Operations

By summer 2009, the ACC had completed 355 projects. They had helped farmers establish over 750 orchards; rehabilitated 21 nurseries that produced 3.5 million seedlings; worked with local officials to organize tree-planting programs in which citizens planted 1.5 million seedlings; distributed 500,000 fruit trees; and worked with farmers to direct seed 81 ha (200 ac) of pistachios. ACC workers have improved 6 km (3.7 mi) of trails and developed tourism infrastructure at Lake Band-e-Amir near Kabul. They have started and continue to support 15 projects for women. Because no

training facilities existed at many locations where they initiated projects, the ACC constructed 6 training centers. The lack of sufficient water is the major limiting factor to farmers and villagers, so the ACC planned and completed 150 watershed projects.

Technical Assistance to Task Force Yukon

In June 2009, the FAS asked the USFS to provide technical assistance to the US Army Airborne Division that operated Forward Operating Base Salerno, located in Khost Province in eastern Afghanistan. The training was focused on small-scale projects to rehabilitate degraded watersheds and provide local employment. This 4-day workshop addressed a variety of basic soil and water conservation techniques that

were deemed to be useful in the rehabilitation of degraded watersheds. The course included a combination of lecture and discussion, in class exercises, and demonstrations for each training module. The training was well received and Task Force members contacted the USFS training team via the internet with follow-up questions for several months after the training. The USFS team has subsequently been asked to provide training for the Army National Guard Agricultural Development Teams prior to their deployment to Afghanistan.

There is still a lot of work to do to return Afghanistan's natural resources to pre-war condition. The USFS team feels strongly that their contributions have helped Afghan farmers and citizens rebuild their country.