Soil Conservation Institutions in New Zealand and the United States
The Case of Donald Williams' Advisory Trip

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Donald A. Williams, Administrator of the United States' Soil Conservation Service (SCS) traveled in New Zealand from September 28 to October 20, 1964 at the invitation of the New Zealand Parliament. In the 1940s, New Zealand had established soil conservation institutions, and had had mixed experiences with their original legislative and institutional arrangements. Dr. Williams was invited to review the New Zealand soil and water conservation programs and to suggest reforms, including alterations that might require legislation.

During the post-World War II period, Western advisers on conservation and agricultural development traveled extensively to advise agriculturalists in poor countries of Africa, Asia, and South America; advice which these countries often accepted as a condition for loans or grants. There is no question that considerable environmental, cultural, economic, and political differences existed between these Western countries and those they advised. I mention this period merely as a backdrop for the Williams trip to New Zealand. Counterposed against the agricultural advice flowing from the rich to the poor countries, the Williams trip highlights not differences, but similarities. Williams' assistance and advice was not encumbered with the prospect of loans or aid. Indeed, New Zealand's Parliament rejected some of Williams' ideas as not being pertinent to New Zealand conditions, and affected ministries had opportunity to comment on the Williams report.

Despite considerable differences in size between New Zealand and the United States, there are many similarities in their respective efforts toward soil and water conservation. Both nations have representative democracies and although political institutions differ, both governments respond to the electorate. Both systems accommodate a capitalist economy, underpinned by private property rights. Public or state-supported education emphasized agricultural research, educating agricultural specialists, and extending information to farmers and ranchers. Both governments have a heritage of assisting agriculture, or intervening in it depending upon one's view. Because of these similarities the United States and New Zealand faced some of the same problems in advancing soil conservation within their overall agricultural policies and programs.[1]

Williams' Background

A native of Clark County, South Dakota, Williams earned an engineering degree from South Dakota State College of Agriculture & Mechanical Arts in 1928. He worked as an engineer in South Dakota, farmed, and did postgraduate studies at his

alma mater and at the University of South Dakota before joining the SCS in 1935.[2] From 1935 to 1950, he worked with the SCS in the West in Montana, Idaho, Oregon, and Washington, where much agriculture was irrigated. In an interview with this author, he explained his orientation as a conservationist:

> "It became evident to me when I began to really find out about conservation objectives and purposes that you could not do soil conservation work unless you also did water control or water conservation work in connection with it, unless you were just in a wind erosion area where the wind was the factor. My interest in conservation largely developed on the water side of the soil and water conservation program. My goal was not to make engineering the dominant factor but to make it subordinate to the things that needed to be done to the soil itself. In the beginning days there was practically no attention paid to the irrigated land. People thought that if the farmers had irrigation, then the problems are all taken care of. But some of the most severe erosion was taking place on irrigated land because of running the water too long on too steep slopes and furrows or not using the right amount of water for the particular soil type or the particular crop. We developed what we called later conservation irrigation practices in which we would control the water with engineering devices or sometimes a diversion so they would not get too much water into a furrow or a basin for the particular crop that was to be grown. We would teach the farmers how often to irrigate different crops in order to get the best results from the efficient use of water. Then we would help them to save the water. They had to use it at the right time. They would get improved water use through how they handled the water on the field. At the same time they were taking care of some of the erosion problems on irrigated land. Water use, water development and conservation really became my professional strong point. I am not ashamed to say that I was perhaps the pioneer in the development of conservation irrigation practices in the Pacific Northwest which have been spread around the world. This has formed the basis of my international consulting work in India, Turkey, and New Zealand and various other places on how to manage water through drainage or through application of water to match the soil type, the crop type, and the quantity needed, at the time needed, to bring efficiency into the picture in a safe, productive way. Conservation irrigation practices became a major part of the technical program in the Soil Conservation Service over a period of time….Coupling these things together we have made engineering a subordinate factor to the job that needed to be done to produce a crop in an efficient way and to save the soil. It was soil conservation supported by water conservation and development."[3]

Invitation to Williams

The invitation to Williams resulted from the visit of David Wilkie, the Department of Agriculture's District Soil Conservator in Christchurch, to the United States in 1963. According to Lance McCaskill, chronicler and crusader for soil conservation in New Zealand, this was only the second visit by a New Zealand soil conservator to the United States since passage of

New Zealand's Soil Conservation and Rivers Control Act in 1941.[4]

Wilkie met with top SCS staff to discuss approaches to administration of soil conservation activities. As Wilkie described the New Zealand's administrative conundrums, the SCS staff experienced a sense of déjà vu as they had undergone some of the same difficulties born of poor administrative arrangements. Wilkie found some arrangements in the United States system preferable to the New Zealand organization. Primary responsibility for soil conservation on private farm land was located in one government department, the U.S. Department of Agriculture (USDA). Furthermore, the Secretary assigned soil conservation responsibility to one agency, the SCS. Direct line authority reached from the Secretary, through the Administrator of the SCS to the field offices.[5] Wilkie's view perhaps diminished the role of the conservation district office, a subunit of state government, and ignored the fact that the authority for land use regulation lay with the state and local government, not the Federal government. Wilkie reported on his impressions in the newsletter of New Zealand Association of Soil Conservators, but exaggerated how smoothly the American system operated. Mistaken impressions can be a pitfall of short study trips.

Upon retuning to New Zealand, Wilkie recommended that Williams be invited to New Zealand. In March 1964, the New Zealand Parliament invited Donald Williams to visit New Zealand to assess their organization and administration of soil conservation.

Williams' Recommendations

Williams made numerous recommendations, in fact too many to deal with effectively in this presentation. But several major themes in the preamble of his report merit examination. Observations in New Zealand informed these recommendations, but Williams also drew upon his experiences in the United States. He recommended adoption of a long-range land and water policy "to avoid serious mistakes in the pre-emption of water uses and reservoir areas."[6] This recommendation undoubtedly drew on Williams' experience in the western United States. Water development in the West allowed for farmers to establish water rights in priority order based on historical usage. In turn, farmers had to make "beneficial use" of the water in order to maintain their water rights. This requirement proved to be a hindrance to adoption of water conservation practices as farmers feared that failure to use their full allocation would reduce or eliminate their water rights. The early SCS employees struggled to combat the unintended consequences of the "beneficial use doctrine" on water conservation in irrigated areas of the West. Also, most authority for water rights and water use and control rested with the various states. Many conservationists of the twentieth century believed a system with some Federal role in allocation would have been better conceived had it not been preempted by historical developments. Native Americans may have lost the most in the rush to claim water rights, as neither the Federal government nor the states afforded much protection of their water interests.[7]

New Zealand's Water and Soil Conservation Act of 1967, which was influenced by the Williams report, declared all natural water to be vested in the Crown. The catchment authorities first created in the 1941 Soil Conservation and Rivers Control Act were reconstituted as Catchment Authorities and Regional Water Boards in order to enact the law.[8] Several observers looked upon the rationalization of water use as a major accomplishment of the Water and Soil

Conservation Act of 1967. A.L. Poole, termed the act the "most constructive water legislation of any country in the world by bringing together all management of natural water, including flood control and drainage, water supplies and pollution, as well as conservation of soil."[9]

Ministry of Conservation

Parliament did not accept another of Williams' more far-reaching proposals. In order to elevate soil and water conservation as a National priority and to facilitate an action program, Williams suggested that a Ministry of Conservation be created.

The desire for a Department of Conservation, coequal with other major governmental departments, had an American precedent. Harold Ickes, Secretary of the Department of the Interior during the Franklin D. Roosevelt administration, envisioned converting his department into a Department of Conservation. He and John Collier, head of the Bureau of Indians Affairs, had borrowed Hugh Hammond Bennett from USDA to start the Soil Erosion Service. The first priority was to work on erosion problems on Indian reservations, but Bennett soon instituted a conservation program on the Indian reservations and the privately-owned farmlands. Ickes also wanted to consolidate responsibility for most publicly owned in the new department. The largest prize, then and now, was the National Forest System administered by USDA. However, USDA argued effectively for retaining authority for the national forests, and went on to persuade the Administration that the Soil Erosion Service properly belonged in USDA as it worked primarily on agricultural land. Ickes' plan unraveled when President Roosevelt assented to the transfer of the Soil Erosion Service to USDA in 1935, a move that Ickes protested to no avail.

In New Zealand, the ministries of lands, forests, agriculture, and works had a role in conservation. To have created a Ministry of Conservation would undoubtedly have signaled an increased emphasis on that subject. In the 1967 law Parliament rejected the idea of a Ministry of Conservation. In its stead they created a National Water and Soil Conservation Authority (NWSCA) in the Ministry of Works. The NWSCA was given responsibility for the existing Soil Conservation and Rivers Control Council, created by the 1941 law, as well as the newly created Water Pollution Control Council and Water Allocation Council.[10]

Water and Soil Conservation – Relationship to Agriculture

Parliament heeded Williams' recommendation that New Zealand's soil conservation organization needed its own staff of conservationists rather than relying on staff from other departments. Just before passage of the 1967 law, the soil conservation staff of the Department of Agriculture was transferred to supervision of the Director of the National Water and Soil Conservation Authority within the Ministry of Works.[11]

The Department of Agriculture took umbrage at some of the criticisms of the Department that were reported to Williams, and which he included in his report.[12] He stated that the Research Division and the Farm Advisory Division could be helpful to the soil conservation effort, but then added, and underlined for emphasis — "However, neither division is an <u>action</u> agency. <u>Action and not just advice is the key to conservation progress</u>."[13] On this matter the observations reported to Williams probably only reinforced his opinions. The New Zealand situation echoed past conflicts in the United States. Most observers would argue that soil conservation was an element of good farm

management, which included other aspects of crop production.

The New Zealand case illustrated the contentious issue of the relationship of soil conservation programs to other mechanisms to provide agricultural advice to farmers. In the United States, state extension services generally had the role of advising farmers on all aspect of agriculture. The Federal government, through USDA, provided some financial and administrative support to the extension services. The extension services were relatively autonomous at the state level and worked in conjunction with the state land-grant university and the state agricultural experiment station. Hugh Hammond Bennett, the father of the SCS, made the case, successfully, that soil conservation was so critical that it deserved special attention. The fact that SCS staff at the local level working with farmers were not subject to the control of the state institutions increased tensions. SCS was continually fighting for its independence during much of the time between 1935 and 1953. SCS and the Extension Service tried to define what constituted soil and water conservation assistance as opposed to other agronomic assistance related to agricultural production. The boundaries were admittedly somewhat artificial, but necessary to try to reduce strife in the institutional arrangements.

Williams also stated that the soil and water conservation agency should have a technical staff and not be dependent upon other university or government institutions. In the United States one of Bennett's triumphs was to make the point that all disciplines had to contribute to soil conservation. Engineers, agronomists, forester, range specialists, and soil scientists should all contribute. No one group had a panacea. All had to cooperate as a team while making conservation their objective, not furthering the ascendancy of their particular discipline. The SCS had technical staff in all of these disciplines and utilized them to contribute to the conservation effort.

Conservation on Watershed Lands

Williams, an engineer by training, had overseen SCS's entry into an era of building floodwater retarding structures in upstream watersheds. But he had relatively little to say about flood control, except that New Zealand's engineering works seemed to be of generally high quality. Rather, he emphasized greater attention to conservation in watershed lands.

From the beginning, SCS stipulated that any work in streams, or on banks and shores, should be accompanied by conservation on farmlands in the watershed, which they called land treatment. Conservation work in the watersheds helped protect structures from sedimentation. Also, the conservation measures helped reduce peaks in small floods. In New Zealand, just as in the United States, advocates of soil conservation sometimes exaggerated the contribution of conservation and land cover to flood reduction.[14] Ironically, the Small Watershed Program in the United States, which Williams helped create, was eventually criticized for paying insufficient attention to conservation on the watersheds above floodwater retarding structures.

Williams was an early convert to the infant prime farmland preservation movement in the United States, but the concept was hard to sell given the vast expanses of U.S. agricultural land.[15] Williams observed that New Zealand had only a small amount of fairly level valleys lands that were extremely valuable for agriculture. This was threatened by lack of attention to conservation in the hill

lands. In addition to protection of the valuable agricultural land, Williams added another, rather farsighted reason for conservation. Tourism was already important to New Zealand and would be become even more important to the economy. In Williams' mind erosion threatened the scenic beauty, and he stated that "…the preservation and enhancement of the natural beauty is related to the need for conservation measures."[16]

Conclusion

New Zealand's Parliament enacted a number, but not all of Williams' recommendations in its Water and Soil Conservation Act of 1967. The organization created in that act, the National Water and Soil Conservation Authority, was abolished in 1988 as part of a general reorganization of government. Michael Roche has written about New Zealand's governmental effort at soil and water conservation. He noted that conservation policy in the post-World War II period was formulated in a climate of "economic growth, sectoral planning and centralised intervention…"[17] Then the environmental movement began questioning the dominant view of conservation and development. Much the same could be said of the United States, except that the state and local control over conservation was much stronger. This was partly a function of size. Also the United States did not radically reorganize its soil conservation institutions as had New Zealand. But the trends through time reinforced the original point, that similarities in the Western democracies posed similar questions in the organization of soil conservation activities.

Endnotes

[1] For a history of New Zealand's soil and water conservation program see Michael Roche, *Land and Water: Water and Soil Conservation and Central Government in New Zealand, 1941-1988* (Wellington: Historical Branch, Department of Internal Affairs, 1994).

[2] Steven E. Phillips and Douglas Helms (edited), *Interviews with Chiefs of the Soil Conservation Service: Williams, Grant, Davis, and Berg* (Washington, D.C.: Soil Conservation Service, 1994), p. 5.

[3] *Interviews with Chiefs of the Soil Conservation* Service, pp. 8-9.

[4] L. W. McCaskill, *Hold This Land: A History of Soil Conservation in New Zealand* (Wellington: A.H. and A. W. Reed, 1973), p. 234.

[5] D. R. Wilkie, "Soil Conservation Administration," *Soil Conservation Newsletter*, No. 1 (1964): 21-27. Massey University Library.

[6] "Report on Soil Conservation and Rivers Control Organisation and Administration, by D. A. Williams, 20 October 1964." Typescript. File AG40 1965/1066 pt. 20, Department of Agriculture, National Archives of New Zealand.

[7] For water rights and irrigation developments in the West see Robert G. Dunbar, *Forging New Rights in Western Waters* (Lincoln: University of Nebraska Press, 1983) and Donald J. Pisani, *Water and American Government: The Reclamation Bureau, National Water Policy, and the West, 1902-1935* (Berkeley: University of California Press, 2002).

[8] *Catchwords: Official Newsletter of the N. Z. Catchment Authorities Association.* No. 82, November 4, 1988. New Zealand Catchment Authorities Association Records, Turnbull Library, Wellington.

[9] A. L. Poole, *Catchment Control in New Zealand*. Water and Soil Miscellaneous Publication No. 48 (Wellington: Water and Soil Conservation Organisation, 1983), p. 23.

[10] McCaskill, *Hold This Land*, p. 237.

[11] McCaskill, *Hold This Land*, p. 237.

[12] S. H. Saxby, Director, Farm Advisory Division, "Soil Conservation Report – Williams," 22 December 1964, File AG40 1965/1066 pt. 20, Department of Agriculture, National Archives of New Zealand.

[13] Williams, "Report on Soil Conservation and Rivers Control," p. 12.

[14] P. K. Simons, "Integration of Disciplines of Soil Conservation and Engineering," *Soil Conservation Newsletter*, No. 2 (1965): 32-35. Massey University Library

[15] *Interviews with Chiefs of the Soil Conservation Service*, pp. 25 and 35.

[16] Williams, "Report on Soil Conservation and Rivers Control," p. 2.

[17] Roche, *Land and Water,* p. 168.