

15 Mud on your boots

Researching the social and environmental history of conservation in Baishui county, Shaanxi during the 1950s

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Environmental historians, in Donald Worster's words,

insist that we have got to go down to the earth itself as an agent and presence in history ... we must now and then get out of parliamentary chambers, out of birthing rooms and factories, get out of doors altogether, and ramble into fields, woods, and the open air. It is time we bought a good set of walking shoes, and we cannot avoid getting some mud on them.

Environmental historians of China would do well to heed this call to get their boots dirty and head out into the environments that they research. Venturing out of the archive and into the field, I would add, holds even greater importance for historians, like myself, who seek to write "history from the bottom" up in two senses of the term, studying interactions between people at the foundation of social hierarchies and the biophysical world that is, to borrow the words of environmental historian John McNeill, "the real substrate of human affairs."

This chapter offers an example of what environmental historians stand to gain from employing the tools of historical anthropology. It does so through a microhistory of post-1949 water and soil conservation (水土保持 *shuitu-baochi*) in Northwest China's Loess Plateau (黄土高原 *Huangtu gaoyuan*), a region covering 64,000 square kilometers that suffers from high rates of soil erosion and acute water shortages. Combining fieldwork with archival research reveals how the conjuncture of biophysical, socio-economic, and political processes generated environmental change, as well as how the rural people whose labor altered the landscape of Northwest China experienced those transformations.

Beginning in the 1950s, the government of the People's Republic of China launched large-scale water and soil conservation campaigns in Shaanxi province and other parts of the Loess Plateau region. These movements mobilized the rural populace to construct terraces, dams, embankments, and other land-management infrastructure. By combatting erosion, PRC leaders

expected these conservation efforts to limit siltation on the lower reaches of the Yellow River, prolong the life of dam megaprojects, and increase agricultural yields to support the PRC's vigorous program of industrialization. Conservation measures implemented after 1949, as part of China's drive toward the interconnected goals of revolution and national economic development, struck at the most basic resources of all: land and water, and how people used them. These campaigns remade Northwest China's rural landscape, changed how people farmed, and transformed patterns of work in the countryside.

I draw on fieldwork conducted in Gouan 沟南 village in Shaanxi's Baishui 白水 county, and documents from the Shaanxi Provincial Archives and the Chinese Academy of Sciences and Ministry of Water Resources Institute of Water and Soil Conservation (中国科学院水利部水土保持研究所 *Zhongguo kexueyuan shuilibu shuitubaochi yanjiusuo*) in Yangling 杨凌, Shaanxi, to examine how mass campaigns undertaken in the name of water and soil conservation during the Mao era affected local societies and environments. I address two interrelated questions: what did state-initiated conservation campaigns mean for the rural communities in China who depended on water and soil for their livelihoods? How did rural people take part in and respond to these campaigns? Assessing the local significance of post-1949 water and soil conservation initiatives enriches our understanding of modern Chinese environmental history, while adding an ecological dimension to scholarship that reassesses the history of Maoist China in terms of the "grassroots" and everyday life. My inquiry focuses on encounters between people and the land as mediated by the state, revealing how specific ecological practices were formed through complex interactions among local knowledge and priorities, state imperatives, and dynamics of the natural landscape.

In Baishui county, as my forays out of the archive and into the village have revealed, water and soil conservation initiatives undertaken in the early PRC period actively drew upon local knowledge and experience. After 1949, agents of the PRC state identified and promoted conservation practices already in use in rural society, so as to limit erosion, control the Yellow River, and increase agricultural output. But in terms of land utilization and management in Baishui during the 1950s, a tension existed between the goals of state-initiated conservation campaigns and the priority that the rural populace placed on sustaining production and ensuring subsistence. With rural laborers called on by the central and provincial government, county leaders, and local cadres to attend to water and soil conservation measures rather than other production activities, divergent imperatives could translate into competition over how to use land and allocate labor power. Local leaders, as archival sources and oral history interviews make clear, had to engage in constant negotiations with the rural populace to resolve these contradictions. Fieldwork affords unique insight into these issues that go beyond the archival record, making it possible to comprehend what conservation meant at the local level.

Mass experience in water and soil conservation

Baishui county is geographically situated in the lower-middle reaches of the Luo River 洛河, which flows some 680 kilometers through the Loess Plateau before joining the Wei River 渭河 on central Shaanxi's Guanzhong 关中 Plain. Elevation in Baishui decreases from the northwest (1,000–1,550 meters) to the southeast (350–600 meters), with most cultivated farmland at elevations between 650 and 1,000 meters. Gullies between 100 and 220 meters in depth occupy half the county, dissecting the landscape into a maze of plateaus, ridges, and mounds. As in other parts of the Loess Plateau region, the fragile character of Baishui's loess soils combines with its fragmented topography and poor vegetation cover to make the land highly susceptible to erosion. The resulting water and soil loss hampers agricultural productivity, contributing to Baishui's relative poverty.

Baishui first came to my attention through a 1953 survey report on water and soil conservation in the Luo River watershed. Along with detailing the severity of erosion and land degradation, the survey also observed that “the masses” in this area possessed “rich experience conserving water and soil.” Peasants in Baishui and surrounding counties had popular sayings related to water and soil conservation, such as the one that cautioned, “If the land does not have lips [i.e., terraces], people will starve (地没唇, 饿死人 *di mei-chun, esi ren*).” In the “dry plateau-gully area” in the Luo River's middle reaches, experience had proven the efficacy of constructing terraces compared to cultivating inclined land. The longstanding practice of building silt catchment dams had likewise turned the bottoms of most gullies in Baishui into fertile farmland. As the report noted, “These kinds of simple and easily implemented methods are already widely utilized by the masses in the plateau area. In terms of water and soil conservation, they perform a definite function.”

In addition to checking erosion, conservation techniques targeted the acute water shortages that prevailed in Baishui and many other parts of Northwest China's Loess Plateau. Most villages in the plateau-gully area had constructed water cellars (水窖 *shuijiao*) and ponds (涝池 *laochi*) to catch rainwater, “common types of methods by which the masses store water.” Plateaus had a low water table, so wells were deep, and residents had to travel long distances to obtain water. Water cellars and ponds not only alleviated the problem of acquiring drinking water, but they also conserved runoff and alleviated water and soil loss. Baishui's Gouan village, as the survey noted, had a total drainage area of 0.053 square kilometers, with 25 water cellars and one pond, which could store 3.914 cubic meters of water. If a torrential rainstorm of 100 millimeters fell and the runoff factor was 62.8 percent, water cellars and ponds could conserve rainwater, keeping it from flowing down the slopes and eroding the soil. To illustrate these conservation techniques, the survey report contained a topographical map of terraces constructed in a gully near the village to conserve soil, and a map

of the water cellars and ponds that residents of Gounan had dug to conserve rainwater. These maps piqued my curiosity and I decided to take a trip to Gounan village to see the place for myself.

Gounan as a model of collective conservation

I first went to Gounan in January 2016 and climbed around in the gully that I had seen cartographically represented in the water and soil conservation survey report. My jogging shoes, Worster might be pleased to know, came away covered in Baishui's loess soil. When I met some of Gounan's residents and explained that I had come to conduct research on water and soil conservation, they eagerly took me to see Tuqiaogou 土桥沟 (Earthen Bridge Gully), the ravine south of the village, where a man called Yang Lingjun 杨凌俊 (1889–?) had gained renown during the first decade of the PRC period for building terraces. In addition to looking at a photograph of the site of Yang Lingjun's terraces taken in 1959, I interviewed the octogenarian Yang Xuxiang 杨许祥, Gounan's former cooperative accountant, brigade leader, and party-branch secretary, who gave me a copy of *Gounan wangshi* 沟南往事, the village history that he had written.

Yang Lingjun, I was told, came from an impoverished background. In his youth, he had eked out a living working as a hired laborer digging water cellars for more affluent households. After a catastrophic drought struck Shaanxi in 1929, Yang and his family sold all of their land on the plateau and moved to live in Tuqiaogou, where they set up a shed and started to cultivate around 100 *mu* 亩 of inclined land. Over several years, as Yang Xuxiang's village history records, Yang Lingjun and his nephews gradually

filled trenches and constructed embankments (填壕邦埝 *tianhao bang-nian*), made sloping land into horizontal terraces (水平梯田 *shuiping titian*), built embankments on low-lying land (埝窝地 *nianwodi*), dug fish-scale pits (鱼鳞坑 *yulinkeng*), and planted trees on empty land beside embankments to control water and soil erosion.

With these measures to control water and soil loss, grain production per *mu* on Yang Lingjun's land increased from 40–50 *jin* 斤 to over 100 *jin*. For these achievements, Yang Lingjun earned the nickname “Old Man of the Earthen Bridge” (土桥老汉 *tuqiao laohan*) from his fellow villagers.

After learning about Yang Lingjun and Tuqiaogou during my initial visit to Gounan, I went back to the Shaanxi Provincial Archives in Xi'an and uncovered a wealth of materials on the local history of water and soil conservation in the village. Unlike my local informants, archival documents stress the limitations of pre-existing conservation techniques and the necessity of state-initiated campaigns to improve them. These sources related that terraces covered only a portion of the gullies around Gounan in the early 1950s. Apart from Yang Lingjun's land, terraces had limited scope

and effectiveness. Like in other parts of Baishui, erosion posed a serious threat to cultivated fields. Since the mid-nineteenth century, erosion from Tuqiaogou had formed nine branch gullies and runoff from the watershed accounted for half of annual precipitation. In a report on the management of Tuqiaogou from November 1957, Baishui's county head Li Chongshu 李崇书 noted that,

since vegetation cover is poor, soil and water erosion conditions are relatively severe. Here people often say, "When thunder sounds, people suffer disaster. The floodwaters that come are worse than tigers and wolves." In this manner, the more the gully is washed away the deeper it gets and the more the gully gets washed away the longer it gets. Cultivated land decreases, soil gets poorer, and production decreases by the year.

Tuqiaogou lost over 16,000 cubic meters of soil due to erosion annually, washing away more than 792 tons of nitrogen, phosphorus, and potassium—equivalent to 15 times the amount of fertilizer applied to the gully each year. As a result, pre-1949 grain production in the locale averaged a meager 40–50 *jin* per *mu*. In years of dearth or drought, there was almost no harvest.

Beginning with the 1954 formation of primary agricultural cooperatives, which Yang Lingjun joined early on, Baishui's county leaders mobilized the rural populace to dig trenches, build embankments, and construct terraces on sloping land. Local cadres in Gounan, "led all of the village's cooperative members to go to war against Tuqiaogou, advancing militarily against nature, demanding productivity from barren hills and barren gullies, with everyone going all out and getting at it." Yang Lingjun's experience had provided a "foundation," as Yang Xuxiang insisted in an interview conducted during one of my later visits, but he acknowledged that the collectives managed land better than individual farmers had done previously, and the cooperative's leaders prioritized water and soil conservation.

Archival documents, however, present conservation as a top-down rather than a bottom-up initiative. Looking back from 1957, Li Chongshu's report stated that after several years of diligence conservation campaigns had "changed 'poor gullies and bad pieces [of land]' and created a fortunate situation in which 'households have water cellars, villages have ponds, all land has terraces, all gullies have dams, and there are trees beside the embankments.'" Through terracing and tree-planting, the Gounan brigade's residents ensured that "water did not run down the plateaus and soil did not wash down the slopes," thereby "forcefully assisting in the realization of the nation's great plan to fundamentally control Yellow River disasters." When 45 millimeters of precipitation fell in June 1954, conservation measures at Tuqiaogou preserved all of the storm runoff. With erosion kept in check, rainwater stayed in fields and agricultural production increased. By 1956, production per *mu* reached 150–160 *jin* and average incomes improved

as well. In this manner, as Li's report emphasized, conservation furthered the PRC's larger goals of controlling the Yellow River and increasing grain output.

County leaders, as narrated in the archival documents, drew on local knowledge and techniques to lay the basis for these efforts. In this account, initiative came from agents of the PRC state as much as the local populace. Initially, Baishui's county leaders did not have adequate experience promoting water and soil conservation. "For that reason," county head Li Chongshu explained, "we deputed technical cadres deep into the field to summarize the experience of the local masses." These techniques included building trenches and embankments, constructing terraces on slopes, building dams in gullies to block silt and impede runoff, constructing terraces in gullies, digging water cellars and building ponds beside roads and villages, dispersing rainwater's flow and guiding runoff into fields, building gully-head defenses and water drops, and filling in collapses. They also included planting trees and other vegetation beside villages, on embankments, and on abandoned slopes. Afterwards, as conservation efforts at Tuqiao-gou went forward, leaders "affirmed and extended" this mass experience, "which performed a definite function."

During these campaigns, Baishui county leaders extolled Yang Lingjun's success as a model for emulation. As Li Chongshu described,

After more than twenty years of arduous labor, he [Yang Lingjun] finally made land on the two banks of a branch gully of 96 *mu* into terraces. Productivity increased over the years and in 1954 output per *mu* reached 185 *jin*, more than doubling the 90 *jin* per *mu* on most level tableland.

The best five *mu* of wheat had an average production per *mu* that reached 360 *jin*, which was twice the 180 *jin* produced on most plateau land. The 200 pepper plants and 100 pomegranate plants grown on embankments and in depressions unsuitable for grain cultivation also generated income, with the pepper plants alone bringing in over 100 *yuan* a year.

Official materials designating Yang Lingjun as an "advanced producer" (先进生产者 *xianjin shengchanzhe*) in 1958 commended him for rationally utilizing the land and "accumulating abundant water and soil conservation experience to ensure income." Under Yang Lingjun's influence, Gouan's residents mobilized to build terraces on over 680 *mu* of inclined land between 1954 and 1958. Yang also garnered acclaim for the experience he had accumulated digging more than 400 water cellars in his lifetime, and for his activism in cooperative work. Although Yang could not engage in physical labor due to his old age during the conservation campaigns of the 1950s, he personally went down into water cellars to direct young people carrying out work.

The local people I spoke with echoed the official archive by recalling the gains in agricultural production that resulted from conservation measures. But in oral history interviews they placed even greater emphasis on

conservation's role in alleviating the village's severe water shortages. Yang Lingjun's skill at digging rain-saving water cellars was of especially great importance in Gounan, where the low water table (more than 120 meters underground) made it all but impossible to dig wells. Residents could collect water from a spring about one *li* away in the gully to the north of the village. But each trip to carry 40–50 *jin* of water back on shoulder poles took half an hour. Besides, water supplies obtained from the spring could barely meet the needs of the people and livestock in the village. In the dry-plateau area, as Yang Xuxiang explained during our conversations,

Droughts couldn't be avoided. There were no water sources! This isn't an irrigated area. With these natural disasters, you had to rely on heaven to eat (靠天吃饭 *kao tian chifan*). There was nothing you could do about it.

Following Yang Lingjun's example and digging water cellars did not eliminate these water-scarcity problems, but it could at least alleviate them. In Gounan, people dug water cellars beside roads and anywhere else that water could be stored. In the village, as Yang Xuxiang explained, "water cellars were originally dug in basically all the fields. Some have had them for many decades or even centuries."

Because the PRC state prioritized water conservancy and agricultural production, local conservation projects garnered higher-level official support as a means of realizing national objectives. The official archive reflects these priorities. Thanks to the central government's leadership after 1949 and "under the inspiration of the 'National Comprehensive Plan to Fundamentally Control Yellow River Flood Disasters and Develop Yellow River Water Conservancy' (国家根治黄河水害和开发黄河水利综合规划 *Guojia genzhi Huanghe shuihai he kaifa Huanghe shuili zonghe guihua*)," as Li Chongshu stated, locals devoted their efforts to the PRC state's goal of "reconstructing the hilly areas (建设山区 *jianshe shanqu*)." To this end, technical personnel from the Yellow River Water Conservancy Commission's Northwest Engineering Bureau (西北工程局 *Xibei gongchengju*) came to Gounan to assist Baishui's county leaders in formulating comprehensive plans for management of Tuqiaogou. After summarizing Yang Lingjun's experience, Baishui's county government and other official agencies convened three on-the-spot meetings at Tuqiaogou in 1956 to promote the conservation measures practiced in Gounan, with more than 420 cadres from various townships and collectives coming to observe and study. Some of the most prominent provincial leaders in Shaanxi at the time, including Zhao Shoushan 赵寿山 and Zhao Boping 赵伯平, personally attended the meetings. At another water and soil conservation training class attended by 43 "backbone" (骨干 *gugan*) cadres, Yang Lingjun introduced his management techniques and demonstrated their results.

While official documents highlight the interventions of state agents, my interviews with Yang Xuxiang foreground the importance of the local knowledge held by peasants like Yang Lingjun in laying the foundation for water and soil conservation programs. As Yang Xuxiang put it,

Of course, that old man [Yang Lingjun]'s achievements can't be obliterated. With that basis, there was already water and soil conservation and experience building terraces. But when the old man spoke he did not have any [educational] level (水平 *shuiping*) and could not speak clearly.

Rather than explaining conservation techniques, Yang Lingjun only said things like: "Work hard! Tamp down the dirt well! Don't let the water run off! Don't let the (soil) fertility run off! The land can increase production!" That simple language, according to Yang Xuxiang, served as the "basis" for water and soil conservation measures. Subsequently, "The county, district (*xiang*), and township (*zhen*) established water and soil conservation cooperatives and developed these practices, listening to the old man's experience." Specialized technical personnel translated Yang Lingjun's experience into techniques that could be replicated in a programmatic way in other locales. But in Yang Xuxiang's telling, conservation was, first and foremost, a local initiative.

Once promoted beyond Gouan, these water and soil conservation practices proved effective in terms of checking erosion and increasing productivity. Li Chongshu reported that in addition to managing 308,112 *mu* of land in 1956, which exceeded Baishui's target of 180,000 *mu* by 171 percent, these conservation initiatives "also accelerated development of terrace construction." For this reason, Li praised Tuqiaogou as a model for all of Baishui:

We must make unceasing efforts to carry out terracing and greening (绿化 *lühua*) of all the county's gullies just as has been done in Tuqiaogou, diligently completing the water and soil conservation mission to support the realization of the Yellow River control projects and improve the people's livelihood.

In Gouan, as Yang Xuxiang proudly recalled,

The plateau and the slopes were completely managed, so soil did not go down the plateau, water did not go out of the gully, and mud did not go out of the gully, so it was all conserved. In the gully a dam was also built—an earthen dam (土坝 *tuba*). With this management, production also increased, and we were appraised as a model (典型都评上了 *dianxing dou pingshang le*).

In large part, as detailed in Yang Xuxiang's village history, Gouan's ability to attain this model status had to do with the efforts of local leaders who

built their own reputation by publicizing the village's achievements in water and soil conservation. In 1957, Gouan's party secretary Yang Yuesheng 杨岳胜 (1925–1984) represented the brigade at the Shaanxi Province Advanced Agricultural Unit Work Conference (陕西省农业先进单位工作会议 *Shaanxi sheng nongye xianjin danwei gongzuo huiyi*), where he introduced Tuqiaogou's conservation experience. At this event, Yang Yuesheng received a banner from the PRC State Council's Water and Soil Conservation Commission. The elderly Yang Lingjun could not attend the meeting due to his poor health, as Yang Xuxiang related during our interviews, so his nephew attended on his behalf. The following year, when local leaders—but not Yang Lingjun—attended the central government's Agricultural Socialist Construction Conference (农业社会主义建设会议 *Nongye shehui zhuiyi jianshe huiyi*) in Beijing, the State Council once again presented Gouan a certificate of commendation signed by Zhou Enlai 周恩来. Singled out for this praise, Gouan fit into a pattern characteristic of water and soil conservation initiatives throughout China in the 1950s, which fostered model locales selected because of favorable or special conditions for propaganda and demonstration, and comprehensive development of small watersheds like Tuqiaogou.

Landscapes of labor

For Gouan's rural populace, as oral history interviews make evident, water and soil conservation measures mainly entailed back-breaking physical labor. During the Republican period only the most well-off households in the village—the wealthy peasants and upper-middle peasants, according to Yang Xuxiang—had wheelbarrows or handcarts. After 1949 such tools remained in extremely short supply. Reliance on clumsy wooden carts, combined with the lack of roads, made moving earth for conservation projects a difficult task. As Yang Xuxiang explained:

When you pushed those [carts], if you didn't have strength and you didn't have skill, you couldn't move them. Out in the fields you pushed that way, and if the cart didn't move you pushed it this way, pushing it along slowly. Gradually over time a road was opened up (碾开 *niankai*) by pushing them.

Moving dirt-filled wooden carts up the steep slopes surrounding Gouan proved most challenging. To keep runoff from eroding the head of Tuqiaogou, Yang Xuxiang told me, “the entire village went out to move earth. People carried it on shoulder poles, they pushed wooden carts, and shoveled it.” Only after an extended period of mass mobilization did Gouan's residents move enough earth to redirect the flow of water and protect the gully head, thereby limiting erosion.

To get people to do the heavy work necessary to transform the physical landscape, local leaders in Baishui during the 1950s had to resolve what archival documents term the “temporary contradiction between water and soil conservation and agricultural production.” Conservation projects had numerous components, with labor intensive work to do in all four seasons. But after cooperativization, as county head Li Chongshu pointed out, agricultural production witnessed “a new high tide” and double-cropping increased, which decreased the amount of land left fallow and created difficulties in developing field engineering projects. The crux of the issue was that land and labor could be utilized for conservation work or farming, but not for both purposes simultaneously. Crops could not be grown on land that had been dug up to build terraces, embankments, or other conservation infrastructure. “If this contradiction is not appropriately solved,” Li warned, “it will influence agricultural production; or else it will squeeze out water and soil conservation.” Resolving the problem was of utmost importance.

Li Chongshu’s report outlined the methods Gouan and other parts of Baishui had adopted to tackle this contradiction: “Based on the needs of current farming activities, divide the contents of various water and soil conservation projects into those that are unhurried, those that are urgent, and those that must be carried out with comprehensive planning.” Local cadres had to vary the timing of each kind of project to ensure that conservation work did not alter or occupy land needed for cultivation. When not tending crops in summer and autumn, they mobilized residents to construct earthen embankments and terraces; in autumn and spring, they built silt dams and other larger-scale projects. During the winter and spring, the slack agricultural season, they dug water cellars and ponds, and filled in collapses.

When implementing these arrangements, as Li Chongshu advised, one had to “flexibly initiate based on concrete circumstances.” In 1956, for instance, excess rains delayed the summer harvest until the time when late-autumn crops were to be planted. In this situation, local cadres adopted the slogan “when the land is empty repair it,” and “repair first and sow the land early for broom-corn millet and millet; repair afterwards and sow land later for oats and winter wheat.” To make effective use of time, cadres instructed peasants to leave aside pieces of land wherever engineering projects were done. After digging up the soil, they sowed these plots with oats. As a result, Li held, “water and soil conservation did not interfere with farming season, and the masses were satisfied.” When moving earth for conservation projects, technical guidance ensured that cultivators preserved the fertile topsoil to avert decreases in productivity.

At the same time, meeting conservation targets required careful adjustment of work schedules and incentives. Local cadres had to “rationally handle labor compensation” to ensure that water and soil conservation work met quality standards, and “solve [the issue of] insufficient labor power.” To this end, Baishui county leaders combined “temporary assaults” (临时突击

linshi tuji) that organized the entire populace during slack farming season with year-round management. In conjunction with these “assaults,” temporary work teams were organized for specific projects, while brigades allocated labor for conservation work as part of their annual plans. “Doing it this way,” wrote Li, “avoided the shortcoming of cooperative members worrying that work points were not evenly distributed.”

In our conversations, Yang Xuxiang repeatedly stressed the seasonal rhythms of water and soil conservation work. During the busy agricultural season, cooperative members planted crops; in the slack season, they attended to water and soil conservation, especially during winter when farmers would customarily have taken a well-deserved rest. To do conservation work, people now had to labor year-round. When not farming, everyone with the capacity to do labor—male and female, young and old—devoted their efforts to conservation projects. According to Yang Xuxiang,

Water and soil conservation means saving water and protecting soil. Because water runs off, soil runs off and fertility runs off. When fertility runs off, productivity also suffers. The masses were organized to utilize the slack agricultural season to do it on a large scale (大搞 *dagao*), and during the busy agricultural season to do it on a small scale (小搞 *xiaogao*). Soil fertility could keep up, so productivity could keep up. When there is water, fertility can be conserved; when there is fertility, production can be conserved.

But the rural populace did not necessarily consume the increases in output that resulted from these conservation measures. They had little power to decide what and how to produce. Cooperative leaders made these decisions. With the institution of the PRC’s Unified Purchase and Supply (统销统购 *tongxiao tonggou*) system in late 1953, cooperatives had to deliver any grain surpluses that resulted from water and soil conservation efforts to the state at artificially low prices. To implement conservation measures, collectives thus had to monitor work quality, adjust labor incentives and compensation via work points, and carry out ideological education and propaganda. The example of labor models like Yang Lingjun helped to convey these messages. In addition to participating “actively and responsibly” in all government campaigns, Yang Lingjun garnered praise for an instance in 1949 when he volunteered an additional 200 *jin* on top of his household’s tax grain (公粮 *gongliang*) obligations. According to a 1958 document, Yang considered this his “glorious responsibility.” Rural cultivators, in this didactic message, had a moral duty to hand over their grain to the state.

To convince the local populace of water and soil conservation’s importance, as Li Chongshu stated, cadres had to educate peasants about the equivalence between individual and collective benefits, as well as between immediate and long-term benefit. Li advised that labor quotas set for water and soil conservation should consider each locale’s “special characteristics:”

the character of the soil, the work's technical nature, people's technical proficiency, and the quotas set for other agricultural tasks. Water and soil conservation projects entailed heavy labor, so "in principle" they should count for more work points than other kinds of farm work.

Methods of compensation, as Li Chongshu explained, also differed based on how early or late projects would reap benefits and the area's "special characteristics." For example, "field engineering projects" like terraces, field embankments, and contoured gully embankments were "mostly recorded as agricultural work, with dividends distributed in the same year." In contrast, work points for projects like silt dams, gully-head defenses, ponds, and check dams, "because benefits are reaped later," were "mostly recorded as capital construction work, with the burden distributed among total labor power and dividends distributed according to periods (of 2–3 years)." After adopting these measures, Li claimed, "laborers' activism greatly increased." However, other reports state that a decision was later made to provide compensation for all conservation work in the current year, since waiting to distribute the value of work points in succeeding years negatively influenced labor effectiveness.

In our interviews, Yang Xuxiang likewise emphasized the importance of work points as the motivation and incentive for doing conservation work. In what he called the "standard system (标准制 *biaozhun zhi*)," one able-bodied adult male's "labor power (劳动力 *laodongli*)" received ten work points for one day of work. This arrangement was also called the "ten-point system." (Women, however, received only eight work points per day). Later, the cooperative shifted to promoting a piece-rate system—literally "fixed effort system (定力制 *dingli zhi*)"—for allocating work points.

As Yang Xuxiang explained, the piece-rate system meant that male laborers earned ten work points on a typical workday (工时 *gongshi*). But they could earn more work points for exceeding targets stipulated by the cooperative:

For example, when doing water and soil conservation by digging trenches and building terraces...if you completed so many earthworks you got so many work points. If you completed a lot of earthworks, you got more and if you completed fewer earthworks you got fewer.

The standard for male laborers was ten work points, in other words, but those who were "willing to put forth effort (肯出力的 *ken chuli de*)" earned more based on their performance. Yang Xuxiang proudly told of his ability to earn work points in this manner: "I once had those kinds of results. When I was young, I wasn't tall, but I was strong....I shouldered that carrying pole and I was fast, gathering earth all in one place to earn work points." When building a dike with one his comrades, Yang Xuxiang recalled that, even though it typically took eight people to move ten *fang* 方 of earth in a day, the two of them hauled ten *fang* in a single morning, which earned each of

them 25 work points. “I could turn out for work (出勤 *chuqin*) and earn over 20 or even 30 work points, earning two or three workdays’ worth...If you were willing to put forth effort, you could get work points.”

However, the necessity of earning work points to make a living dampened any opposition to water and soil conservation projects that may have existed among the local populace. When asked if any cooperative members in Gounan ever expressed unwillingness to do water and soil conservation work, Yang Xuxiang emphatically stated that they did not:

To earn work points, you did not pay any attention to those matters. There were no opposing ideas. At that time, people were obedient... Peasants did farm work under the direction of the agricultural cooperative. Working for the agricultural cooperative, you couldn’t do work according to your likes and dislikes. That wouldn’t do.

The launch of the Great Leap Forward in 1958 ramped up the scale of water and soil conservation work all over Shaanxi. As Yang Xuxiang related, from 1958 to 1959 “going all out against Tuqiaogou” (大搞土桥沟 *dagao Tuqiaogou*) became a model for emulation throughout the entire province. But water and soil conservation campaigns soon ran into serious difficulties. Since the early 1950s, local leaders and higher-level authorities in Shaanxi had vaunted Gounan’s experience digging water cellars. Starting in 1958, local leaders mobilized other locales to follow suit. Yang Shiye 杨师叶, a former labor model from a female work team in Baishui’s Fumeng 扶蒙 village, currently in her early eighties, told of her experience during this conservation campaign. Cadres instructed Fumeng’s residents to dig water cellars in pairs, constructing “husband and wife water cellars” (夫妻窖 *fuqi jiao*) and “sisters’ water cellars” (姐妹窖 *jiemei jiao*) to collect rainwater. Yang Shiye and her husband heeded the call, but it resulted in a serious accident: “He was below digging. I was hauling up the earth. The rope snapped, and I fell in...That was 1958, when damn-near everyone dug water cellars (他妈都打过窖 *tama dou dagou jiao*).” Residents mobilized in other parts of Shaanxi to meet their water cellar targets with little regard for quality complained that: “We’ve dug so many ‘black holes.’ They occupy land, donkeys fall into them. They’re useless. It’s really a waste of manpower and resources.”

At the height of the Great Leap Forward, fulfilling mounting conservation targets required both men and women to work at night. Rural women, for their part, had to somehow balance the exhausting work of transforming the land with their many other responsibilities. When asked who took care of cooking and other domestic labor during water and soil conservation campaigns, Yang Shiye replied that,

We just did the housework—we weren’t single men (我们这又不是单身汉 *women you bu shi danshenhan*). We made the food in advance and ate it when we came home...When we went out early in the morning we

prepared food and left it in the pot. When we came back, whether it was hot or cold, we hastily ate it and went out again. We did three shifts... At that time, you couldn't even think about eating well. In the evening there was night work (夜干 *ye gan*). When it was busy, you had to work at night for at least two or three hours.

Even archival sources note that the burden of conservation campaigns during the Great Leap weighed heavily on the rural populace. According to one document, cooperative members in Beiqian 北乾 village, which from 1956 to 1959 formed a high-level cooperative alongside Gouan,

disliked that the retained grain standard (留粮标准 *liu liang biao zhun*) was too low and that water and soil conservation was heavy work that [made them] eat a lot, and so were not willing to go into the fields.

When drought struck in 1960 and state grain requisitioning did not relent, the threat of famine brought conservation work to a standstill. Although demographic data and oral history interviews indicate that Baishui did not witness the kind of famine-related mortality seen elsewhere in China, the county's populace certainly suffered from extreme dearth and hunger. Not until 1962–1963, when the PRC central government issued a new series of directives on water and soil conservation, did these activities regain momentum.

Conclusion

This in-depth examination of water and soil conservation in Baishui county after 1949 demonstrates how agents of the PRC state appropriated and synthesized pre-existing vernacular knowledge forms and practices, promoted them as models, and reapplied them at the local level. Village cadres in Gouan actively publicized this “peasant experience” in their efforts to gain higher-level state recognition and support. Yet conservation efforts did not garner automatic acceptance. Implementation of conservation measures required careful adjustment of farming practices and labor incentives to avoid disrupting agricultural production.

Conservation campaigns launched in Baishui during the 1950s reoriented skills and techniques that mediated human interactions with the land and its resources away from the subsistence imperatives of the rural populace, subsuming this knowledge within the state's larger-scale developmental agenda. The rural populace may have acquired new skills, but they lost the ability to deploy them as they saw fit. Water and soil conservation campaigns meant meeting targets and fulfilling state-defined goals of controlling the Yellow River and extracting agricultural resources. They had little to do with advancing the priorities of the rural populace and rarely took their needs and aspirations into account.

Methodologically, combining environmental history and historical anthropology to better appreciate the environment's role in history starts with getting outdoors and encountering the landscapes that we write about. Whenever possible, it also means talking with the people who have inhabited those environments, relied on them for their livelihoods, and transformed them through their physical labor. Rather than separating fieldwork from archival research, this chapter demonstrates the value of shuttling back and forth between the archive and the field. Reading documents gives our fieldwork direction; fieldwork makes it possible to navigate archives more effectively and interpret written materials in a more rigorously contextualized manner.

The fieldwork I have conducted in Gounan complements the archival record, at least partially corroborating official accounts from the 1950s that some might reflexively dismiss. However, these two types of sources narrate conservation campaigns from distinctly different perspectives. Reports from Baishui county leaders like Li Chongshu speak of mobilizing the masses to check water and soil loss, thereby fulfilling the national goals Yellow River water conservancy and increasing agricultural production. Top-down interventions, in this view, effectively summarized "peasant experience" and resolved the contradictions that stood in the way of plans to remake the environment. Oral histories, however, narrate water and soil conservation as a largely bottom-up initiative. Rather than higher-level party leaders or technical personnel, conservation started with model peasants like Yang Lingjun and gained recognition through the efforts of grassroots cadres.

At that same time, the significance that oral history interviews ascribe to water and soil conservation differs markedly from the meanings attached to it in the official record. Rather than the national-level objective of controlling the Yellow River, as my fieldwork has revealed, local people valued conservation for its ability to improve their livelihoods by alleviating resource scarcities. At least until the Great Leap Forward, conservation initiatives succeeded in meeting Gounan residents' most pressing needs by boosting grain output and providing access to drinking water. In contrast to the government archive, moreover, oral history interviews emphasize the sheer amount of work that went into achieving this transformation of the natural landscape. For the local populace, motivation for taking part in such backbreaking toil came from their need to earn work points, but not from a desire to meet the PRC state's centrally defined plans.

Without visiting Gounan village and getting familiar with the surrounding landscape, I would have never known what questions to ask residents about their experience with conservation and what it meant for them. Nor would I have recognized the sheer scale of this effort to transform nature and the human labor that went into it. It took getting my boots dirty to appreciate the work required to carry drinking water and move earth for conservation projects up these steep slopes. This landscape, I recognized only after visiting Gounan and speaking with elderly villagers like Yang

Xuxiang, fundamentally shaped work patterns, the quotidian rhythms of everyday life, and the meanings that conservation campaigns held for them. To appreciate the presence of the earth in history, you need to get out and walk around.

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