



TURNING SOIL TO DUST AND THE MAKING OF THE DUST BOWL: AN ASSESSMENT

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ABSTRACT

Throughout the 1930s, a severe period of drought, wind-induced soil erosion, and dust storms swept through the panhandles of Texas and Oklahoma, Western Kansas, and large portions of Colorado and New Mexico came to be named the dust bowl. The Homestead Act of 1862, unsuitable agricultural practices, unexpected climatic change, and the drought that devastated the region are a set of main reasons that triggered this disaster. It destroyed lives, made people migrate, and questioned the very basis of development strategies.

Key Words: Soil erosion, Great American Desert, The Homestead Act of 1862, Campbell Method.

INTRODUCTION

The term 'Dust Bowl' was first used by a news reporter from the Associated Press named Robert Geiger in the 1930s while he was covering the rural distress in the southern Great Plains. He described the dust bowl as a region with massive soil erosion and dust storms. The opening lines of the article read "Three little words—achingly familiar on a Western farmer's tongue—rule life today in the Dust Bowl of the continent—If it rains...." (Geiger, 1935). The Dust Bowl refers to the severe period of drought and dust storms that swept through panhandles of Texas and Oklahoma, Western Kansas, and large portions of Colorado and New Mexico throughout the 1930s and severe wind-induced soil erosion. The area of more than one million acres that were affected became collectively known as the Dust Bowl. It caused immense human pain and suffering and led to the most significant internal migration America has ever seen. Russel Lord described it as nearly a literal hell on Earth as can be imagined. Dayton Duncan and Ken Burns described the

Dust Bowl as the worst manufactured ecological disaster in the history of the USA when the lure of easy money and the thoughtless actions of thousands of government-backed farmers created a tragedy that nearly swept away the breadbasket of the nation (Dayton Duncan and Ken Burns 2012). Writer and Historian Timothy Eagen describe this as a classic case of human beings pushing hard against nature and nature pushing back (Eagen, Timothy 2005). Historian Donald Worster observes that human beings could create a world-class environmental disaster within a short span of 40 to 50 years, while it usually takes thousands of years to do something similar. He adds that in no other instance was there more significant or more sustained damage to the American land (Worster, Donald 2004). Three droughts occurred in 1930-1931, 1933-34, and 1936 and three of the six most dry growing seasons specifically for wheat, soy, and maize and hot growing season for soy and maize in the USA since 1901. As the drought worsened, the topsoil turned to dust and was easily washed away. The blowing dust generated enormous dust storms that reached as east as

Washington D.C. and was known as 'Black Blizzards'. In the 1930s, the dust bowl region received 15% -25% below the normal of twenty inches of rain a year. Persistent and continuous drought conditions led to a decline in grain production on the Great Plains from 1933 to 1939, with losses touching as high as 32% in 1933 (Michael Glotter and Joshua Elliott 2016). As the severity and intensity of the dust bowl increased, the government made efforts to correct the condition. The Civilian Conservation Corps planted more than 200 million trees from Texas to Canada to block the wind and prevent the soil from being blown away. Apart from familiarizing with soil conservation techniques such as crop rotation, contour plowing, and terracing, the government even paid farmers a dollar an acre to practice one of these techniques in some places. Towards the end of the decade, these steps reduced the amount of dust blown to 65%. When rainfall returned to normalcy, about three-fourths of the topsoil was lost in some areas, and it took years for a complete recovery. The Homestead Act of 1862, unsuitable agricultural practices, unexpected climatic change, and the drought that devastated the region are generally given as the main reasons that triggered this disaster. While analyzing and documenting the Dust Bowl, Donald Worster considers increased agricultural activity and speculation, and greediness for profits as the leading cause behind the degradation of the topsoil and the dust storms (Worster, 2004). Other accounts blame the increased mechanization of agriculture and technological innovation, climatic conditions, and the presence of a large number of small farms lacking incentives for the adoption of sustainable collective agricultural practices (Hurt, 1981) (Hansen & Libecap, 2004). Interestingly, Geoff Cunfer takes a different view claiming that the Dust Bowl was an 'exogenous shock', strengthened by climatic conditions in the form of prolonged periods of drought (Cunfer, 2005). The paper traces briefly the events that led to the dust bowl.

The Homestead Act

The Western portion of the Great Plains was called the 'Great American Desert' and unsuitable for agriculture. This idea was strengthened by the two

expeditions done by Zebulon Pike (1806-07) and Stephen Long (1819-20). The idea of homestead became popular in the 1840s. By the end of the decade, with huge economic and industrial changes sweeping America, the popular support for the idea of free land increased. It was in tune with the dream "Jeffersonian ideal" that visualized an America that will forever remain as a nation of small, independent farmers, tied to the land and always striving for the success of a democratic system. The Homestead Act of 1862 gave each settler 160 acres of land (In some prime areas, the claims were 80 acres). There was a small registration fee, and whoever was willing to settle should cultivate the land for at least five years and make improvements like putting up fences, till the land and build houses (12 by 14 shelter) for the achievement of greater agricultural prosperity and economic independence. After paying a minimal administrative cost to the government, which normally comes around eighteen dollars, the selected owner has to move to the land within six months. At least ten acres of land should remain under cultivation, and the farm owner had to stay on the property for five consecutive years. After five years and fulfilling all legal requirements of the Homestead Act, the homesteader will get the permanent title of the property (Arrington, Benjamin T 2012). However, in implementation, the Act did meet with some failures. The Act overlooked the harsh climatic realities of the place characterized by meager and highly inconsistent rainfall and its unsuitability to support traditional farming with farm plots as small as 160 acres. Geologist John Wesley Powell recommended larger homesteads, who proposed homesteading units of 2,560 acres (4 square miles). But smaller homesteads were politically viable for serving the purpose of free land reforms and also for checking to monopoly tendencies (Powell, John Wesley 1962). Small farmers could not raise the required capital, and apart from that, the best land was taken away by vested interests in railroads. The exercise resulted in rampant speculation, continuous homestead failures, and fraud. The farming methods and the culture of the farmers who moved into the region were completely different. They came from areas with plenty of rain and had no idea what was in store for them (Hargreaves 1977, Libecap and Hansen 2002).

Farming Methods

Scientific research, Information on rainfall and weather were minimal and mostly unreliable. In the absence of experience and scientific research, bogus and unscientific agricultural practices and the slogan "rain follows the plow" was popularized. The Campbell method of dry farming introduced by Hardy Campbell involved 'subsurface packing' (a principle involving tight packing of soil around 0.1m below the soil, so that water will be drawn to the root area by capillary force) And the creation of the "mulch of the earth", a layer of free Earth on the surface to minimize evaporation. Settlers' soil crushing in a windy, semi-arid area with insufficient knowledge made the situation prone to disaster. Instead of seriously considering these problems, economic considerations received greater attention with the advent of the first world war as it required a boost in wheat production. With soaring prices and good government support, the plains experienced unprecedented farming. Soil conservationist Hugh Hammond Bennett remarked, *"Of all the countries in the world, we Americans have been the greatest destroyers of the land of any race of people barbaric or civilized"*. What was happening, he said, was *"sinister," a symptom of "our stupendous ignorance."* The government continued to insist, through official bulletins, that soil was the one "resource that cannot be exhausted." Bennet once again remarked, *"I didn't know so much costly misinformation could be put into a single brief sentence"*. The scrapping of free land policy created speculators and absentee landowners called suitcase farmers. The twin shocks of environmental disaster and the Great Depression magnified and deepened the crisis. Wheat prices fell from \$1.18 per bushel in 1928 to 38 cents per bushel in 1932 and 1933; Cotton prices fell from 19 cents to 6 cents per pound over the same period. Declining incomes, coupled with reduced farmers' access to credit due to the financial sector crisis, led to foreclosure and the loss of the farm. The farm depression did not halt plowing and production because financially-stressed farmers tended to work the land harder (and expand acreage where possible) to compensate for low prices. But this made matters worse. The Great Depression made the situation more unsustainable, and many farmers

failed or moved away from the destroyed land, leaving behind dry and pulverized land. The twin shocks of environmental disaster and the Great Depression magnified the crisis. The long-term structural alteration in agriculture because of mechanization, consolidation of holdings, and falling agricultural prices with the culmination of the first world war. Prices fell precipitously in the early 1930s, which seriously impacted farm incomes. Wheat and cotton prices crashed (Wheat and cotton prices which were \$1.18 per bushel and 19 cents per pound in 1928, fell to 38 cents per bushel and 6 cents respectively during 1932-33). Decreasing incomes limited access to credit complicated the financial sector crisis. To counter the falling income and prices, farmers increased farming levels, which made the land barren, unproductive, and prone to wind erosion. The plains enjoyed a comfortable and rather long spell of good rainfall and production in the 1920s. Still, by 1931, a severe drought started setting in, and the situation became perfect for wind erosion and dust storms.

CONCLUSION

The origin and nature of the Dust Bowl present a mix of social, economic, agricultural, climatic, and environmental issues. In a way, the dust bowl was an unusual coincidence of euphoria of homesteading, war-induced demand and production, and excellent and favorable weather in the great plains. The impact was hard on people's lives. The story of the great migration during the Dust Bowl remains a grim reminder of the development process that went completely wrong.

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