

Some Consequences of Soil Erosion in an Indiana Township

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Within Salt Creek Township, Monroe County, south central Indiana, there is a sharp contrast in land utilization, soil erosion, and living conditions between the rugged uplands and the bottomland. In the uplands soil erosion is serious, and farming cannot support the present population. The bottomland is not seriously affected by soil erosion and the farmers are relatively prosperous.

The township lies within the unglaciated, rugged physiographic region, "the Norman Upland." This upland plain is underlain by sandstones, siltstones and shales, and has been maturely dissected into narrow tortuous ridges by many small streams. The local relief is between 200 and 300 feet. Most slopes are steep, and fairly level land is found only on the broader ridge-tops. In contrast, the floodplain of the North Fork Salt Creek provides an extensive area of level land.

The soils consist of: 1) upland residual soils developed from cherty limestone, and sandstone and shale; 2) terrace soils developed from non-calcareous sands, silts, and clays; 3) bottomland soils developed from alluvium derived from the nearby uplands.

The upland land use pattern is one of cultivated ridgetops and forested slopes. The farms are generally less than 80 acres, of which only about 10-15 acres are cultivated. Another 10-15 acres often is pasture, and the remainder, woodland. Serious soil erosion is extensive, and the agricultural returns are low. Many farmers exploit the soil and cultivate steep slopes in order to obtain a living. This, in turn, leads to more erosion and a further reduction in the value of the land. The main crops are corn, oats, soybeans, wheat, and grass, but seldom is a good rotation maintained. Pasture is usually poor and overgrazed and is eroding badly.

On the bottomland, which has slopes of 0-1%, soil erosion is chiefly rill and sheet washing, and is not serious. Over 80% of the bottomland is cultivated and corn is the most important crop, followed by soybeans. Oats and wheat cover small acreages, and grass crops are significant in the rotation. The bottomland farms are thus relatively prosperous.

The uplands contribute little to the township revenue, because of the low value of the land and property. They are a financial burden on the better farming area, because they do not contribute in proportion to the population and extent. The township receives considerable help from the State.

The general poverty of the uplands is illustrated by abandoned farms and dwellings, part-time farming, tax delinquency, low assessed valuations, and poor homes and services.

Several abandoned farms were encountered during field work, and in most cases it was apparent that severe soil erosion had caused the farmer to abandon his home.

Many of the upland farmers hold other part-time jobs. A questionnaire filled out by school children of the township showed that all of the 24 fathers reported as farmers have additional jobs. The main area of

employment is in Bloomington or in the nearby stone quarries. In many cases also, the farm income is supplemented by the earnings of children.

Tax delinquency is another indication of low income, and for the period 1943 to 1953 virtually all such land was located in the uplands.

The farm homes reflect the general poverty of the upland areas. Most houses are frame structures, which are generally badly in need of repair and paint. Most farms have an unkempt appearance, with trash and equipment cluttering the same yard. The Census of Housing of 1940 shows that of the farms reporting, not a single one had running water in the unit, or an indoor toilet; eight lacked toilet facilities, and only one possessed electric lighting. Since 1940, however, electric lighting has increased notably as a result of the Rural Electrification Administration. Water supply is a problem for the upland homes, and the cistern is the most common source. The assessed value of improvements also indicates the low value of many of the buildings.

Assessment on personal property is also low, and figuring largely in this is the assessment on automobiles. Nearly all families possess an auto, because without one the family is isolated. Four small general stores are the only shopping facilities in the township, so that Bloomington is the main service center.

On the bottomland, where soil erosion is not a serious problem, fewer farmers need have other jobs. The higher standard of living is reflected in better maintained and tidier farms and buildings.

The township has financial problems resulting from soil erosion. The revenue is derived from taxes levied upon land, personal property, and from the poll tax.

Little revenue is obtained from the uplands in proportion to their area and population. Land values vary between \$1 to \$10 per acre, and other assessments are low.

The bottomland is assessed generally above \$10 per acre; there is virtually no delinquent tax on land; and the revenue from assessed personal property is considerable.

The township expenditures are for road maintenance, public health, assistance to the orphaned and very poor, and education. Of these, education is the largest. Some consolidation of school districts has taken place, but two schools are still maintained and a third building rented just outside the township. School busses now take many children to the local schools, and also take the high school pupils to Bloomington. In 1953, the total cost of education was \$40,242, of which 30% came from the township budget, and 70% from the State. This illustrates the magnitude of outside help, and the impossible task of the township ever paying its way under present conditions.

In recent years the rural non-farm population has been increasing. Several modern homes have been built along State Road 46 and nearby along adjoining side roads. The additional revenue from taxation on this property is an important new contribution to township finances, and the township could attract more of the higher income non-farm group by providing better services.