

POVERTY AND WATER QUALITY IN RURAL AREAS:

An Annotated Bibliography.

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## Introduction

While it is less visible than urban poverty, and receives far less media attention, rural economic and environmental inequities should be of concern to all Americans. Unattended, the cost to society of correcting these disparities will far outweigh any benefits from delay. One challenge for rural advocates is to provide policymakers with convincing arguments, based on credible data, that conditions in poor rural areas warrant immediate attention. This bibliography is one small step toward that goal. The purpose here is to provide background information for an analysis of the 1990 Census of Population and Housing. The Census is the most accurate national comparable accounting of income and housing conditions researchers have to work with. From this database a demographic profile of rural America will be developed. Many research articles contained in this bibliography are based on data from the 1980 Census. It is important to understand these earlier works, as they can help us interpret the 1990 Census findings. An effort was made to collect articles demonstrating the geographic, as well as racial and ethnic, diversity of the problems in rural areas. Illustrating the problem's human dimension is important, but the calculus of national politics will demand a regional view as well.

The full research project hopes to examine the condition of water quality and sewage disposal in poor rural areas. As important as these issues are to many people, the number of publications specifically addressing the topic is very small. Consequently, the books and articles annotated in this bibliography are divided into the five closely related topics outlined below. Each annotation focuses on the basic results or conclusions of the publication. The citation also provides the interested reader with a reference for further study.

- I General Poverty Conditions
- II Poverty among Rural Minorities (including individual groups)
- III Rural Water Quality: Non-point and Point Source Pollution
- IV Income and the Rural Economy
- V Defining the Nature of "Rural"
- VI Policy Responses: Poverty and Environmental Programs

## I. General Poverty Conditions

1. Doving, Folke. *Inequality: The Political Economy of Income Distribution*. Praeger Publishers, 1991.

Inequality is explained in the context of Ricardo's (1817) theory of economic rent and the scarcity value of goods and services. Historic analysis, some dating back to the 1700's, shows a recent reversal in a long term trend toward greater equality in the U.S.. Slow productivity growth and federal deficit financing have contributed to the widening of economic disparities. But inequalities extend to the physical environment as well, with the least polluted areas at the command of those who can pay the most for them. The social costs of environmental pollution must be factored into any realistic disparity measure.

Doving offers poverty researchers three conclusions with respect to measuring economic inequality; 1) the conventional concept of money income is better suited to bring out the real significance of economic distributions than any of the proposed modifications, including in-kind transfers; 2) snapshot income measures, such as the decennial Census, are for the lack of better data, adequate proxies for the more inclusive concepts of lifetime earnings and life cycle behavior; 3) as a measure of income inequality among groups, the ratio of median to arithmetic mean, is a convenient and close proxy for the more sophisticated Gini index.

2. Sawhill, Isabel V. "Poverty in the U.S.: Why Is It So Persistent?" *Journal of Economic Literature*, September 1988, pp. 1073-1119.

The poor are a diverse group overall, but your chance of being poor increases if you are black, live in a female-headed household, or a child under 18 years of age. Most poverty is a temporary condition, yet a substantial fraction of the poor are persistently so. Geographic location, and being born into a poor family, are the best predictors of persistent poverty. Only modest progress has been made in alleviating poverty in the U.S., despite substantial real spending increases in income transfers and on human capital programs. The elderly are one segment of the poor who have made significant gains. Despite its shortcomings, the "official " poverty measure is a useful research definition.

3. Coppedge, Robert O. and Carlton G. Davis, coed. *Rural Poverty and the Policy Crisis*. Iowa State University Press, 1977.

The conceptual dimensions of rural poverty are outlined in a series of papers that focus on the social and economic costs of poverty. Income distribution and rural underdevelopment are viewed from traditional (neoclassical) and alternative (radical political) theoretical frameworks. These theories are also applied to the policy implications of alleviating persistent poverty, and the role of institutions in policy development and program implementation.

An interesting aside: "A University of Houston research team surveyed some 429 rural black low-income households in 12 central Texas counties... 1 family out of 3 had no means of public or private transportation, half had no running water, and three-quarters had no hot water. On the other hand, 7 out of 8 families did have television sets and 4 out of 5 had radios. These priorities are indicative of values of the poor, including the significance they attach to customs of the average American and their incentive to emulate them."

4. Wharton, Clifton R., Jr. "Reflections on Poverty." *American Journal of Agricultural Economics*, December 1990, pp. 1131-1138.

Living conditions for America's most disadvantaged are increasingly taking on the look of Third World poverty. America's poor are disproportionately women and children, as well as racial or ethnic minorities. Unlike the overpopulation and resource scarcity problems of the Third World, the constraints on change in the U.S. are largely institutional. Unless policymakers are brought to a better understanding of the problems of poverty in rural America, they will not develop the political commitment necessary for real change.

5. O'Hare, William P. *The Rise of Poverty in Rural America*. Population Reference Bureau, July 1988.

Eighteen percent of rural Americans were living in poverty in 1986, twice the rate of urban areas. Rural median income was 26 percent below the urban median. Continuing a trend, the net outmigration from rural areas was one million persons during 1986 alone. Generally, the rural poor were more likely to be a working couple with children, and as such faced greater problems qualifying for cash assistance, housing benefits, and Medicaid. Welfare reforms, tax relief, and economic development initiatives are needed to improve educational and occupational opportunities in poor rural areas.

#### Historic perspective

6. Bird, Alan R. *Poverty in Rural Areas of the United States*. Resource Development Economics Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 63, November 1964.

Approximately 17.4 million people were living in rural poverty in 1959, of which 12 million were white, 4 million were Negroes, and 250,000 were American Indian. Poor people living on farms totaled 6.2 million, and were becoming increasingly dependent on off-farm income. Migrant and sharecropping farmworkers were seen as the group most entrapped in persistent poverty. Individuals were counted separately from families in the 1960 census. Of the 4.4 million rural families found to be poor, 1 million were headed by a white person 65 years of age or older--three times the rate of poor nonwhite families. One third of the rural homes lacked a private bathroom, while more than 1 in 4 had neither public sewer access nor a septic tank.

7. Bird, Alan R. and John L McCoy. *White Americans in Rural Poverty*. Economic Development Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 124, November 1967.

In 1960, there were 9.65 million American families living below the poverty line. Over 6.1 million households lived in nonmetropolitan areas, and 80 percent of them were white. While there were concentrations of poor whites living in the Ozarks, Appalachia, and the South, they were for the most part scattered throughout the countryside. Poor rural whites could be found in areas ranging from depressed to affluent, from all white to mixed race. Poverty was seen as a Negro problem, however, particularly in the South. Consequently, the needs of poor rural whites were not being addressed by the new poverty programs of the day. Recognition of their "special" needs, and more broadly defined program requirements were seen as important steps in alleviating the poverty of rural whites.

## II. **Poverty Among Rural Minorities.**

8. Summers, Gene F. "Minorities in Rural Society." *Rural Sociology* 56 (1991), pp. 177-188.

Social scientists are challenged to embrace seven beliefs about overcoming poverty among rural minorities. 1) Improving workers skills alone is not enough, the demand for skilled labor must also be there. 2) The persistently poor will not directly benefit from increased American global competitiveness. 3) Part-time and temporary labor is as much a rural phenomena as an urban one. 4) The informal labor market or "cottage industry" is a part of the rural labor landscape. 5) Many of the rural poor are elderly, disabled, or without adequate childcare, and therefore will not directly benefit from jobs programs. 6) Rural problems may not be the result of failed rural institutions or people, but instead have their roots in urban exploitation. 7) Appealing to the paternalistic instincts and civil obligation of society's upper class may help improve the welfare of the lower class.

9. Allen, Joyce E. and Alton Thompson. "Rural Poverty among Racial and Ethnic Minorities." *American Journal of Agricultural Economics*, December 1990, pp. 1161-1168.

Between 1970 and 1988, poverty among rural whites remained constant at 13 percent, increased slightly to 35 percent among rural Hispanics, and fell from 53 to 40 percent for rural blacks. Race is an important determinant in rural poverty, but so is age and gender. Compared to other household groups, female householders have a substantially higher poverty rate, and have the majority of dependent children. In rural areas, half the white children, two-thirds of Hispanic children, and three quarters of all black children live in poor, female-headed households. Higher AFDC benefits and greater job training should be included in policies targeting this segment of the underclass. Beyond developing human capital, rural areas need new jobs in primary, as well as secondary, sectors of the economy.

10. Morrissey, Elizabeth S. *Characteristics of Poverty in Nonmetro Counties*. Economic Development Division, Economic Research Service, U.S. Department of Agriculture, Rural Development Research Report No. 52, July 1985.

Socioeconomic similarities and differences were found in a comparison of the 100 highest and 100 lowest poverty rate counties in nonmetro areas, using 1980 Census data. Populations living in high poverty counties are more likely to receive income assistance, have less formal education, and be young or disabled. Both groups had similar proportions of elderly, Social Security recipients, farms businesses and farm owner-operators.

#### Blacks

11. Ghelfi, Linda M. *Poverty Among Black Families in the Nonmetro South*. Agricultural and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture, Rural Development Research Report No. 62, August 1986.

Analysis of the 1980 Census of Population and Housing shows that nearly all (1.1 million) nonmetro black households live in the South. One third had incomes below the poverty line, and over half were headed by a female. Poor black female householders are generally young, lack a high school education, and one third are caring for preschool age children. Compared to poor white householders in the South, poor blacks have less education, lower-wage jobs, and higher unemployment.

12. Rankin, Bruce H. and William W. Falk. "Race, Region, and Earnings: Blacks and Whites in the South." *Rural Sociology* 56 (1991), pp. 224-237.

Living in the region of persistent poverty known as the Black Belt is a factor to the lower earnings of blacks in the South, but it has an equally depressing effect on the earning of whites residing in the region as well. While past studies have found racial difference in earnings of rural Southern's generally, this study found none within the Black Belt region. Region and race compound the problem of lower earning for blacks in the Black Belt of the South. Compared to the rest of the South in 1980, Black Belt residents were less educated and worked less often. The region's unemployment rate was 1.5 times the non-Black Belt rate. Thirty-five percent of households are headed by females, slightly higher than the rate in the non-Black Belt South.

13. Gray, Phyllis A. "Economic Development and African Americans in the Mississippi Delta." *Rural Sociology* 56 (1991), pp. 238-246.

Racial conflicts and a high concentration of poor blacks are associated with the lack of new technology industries in Mississippi's core Delta counties. The main barrier to economic development is the lack of good job opportunities these industries offer. Keeping blacks from economic advancement enhances the racist exploitation of poor blacks by the white capitalists who control Delta resources. The author describes the Mississippi Delta region as "a model of resistance to social change". Included in a brief history of Delta injustice is the story of Tunica, Mississippi, where revenue sharing dollars for sewer and water improvements were deliberately kept from their intended use of improving conditions in the poor, black area of town.

14. Shulman, Steven. "The Cause of Black Poverty: Evidence and Interpretation." *Journal of Economic Issues* 21 (1990), pp. 995-1016.

Black poverty may not be the result of black social failure, but the outcome of a social racial hierarchy that skews the distribution of income toward whites. In a capitalism society, markets allocate income toward resource holders, and being (a majority) white is a resource for access to information, trust, and privilege. This study attempts to calculate what the black poverty rate would be if the distribution of various factors among blacks were the same as for whites. Education, employment, and occupation explain most of the poverty gap. A significant barrier for blacks today is getting a good start in a first job. A converging trend in black and white educational attainment should translate into converging employment and occupational opportunities, and ultimately like incomes.

## Hispanic

15. Wilson-Figueroa, Maria, E. Helen Berry, and Michael B. Toney. "Migration of Hispanic Youth and Poverty Status: A Logit Analysis." *Rural Sociology* 56 (1991), pp. 189-203.

In the general population, those above the poverty line have a greater propensity for migration than those below the line. Yet, poor Hispanic youth have a higher migration rate than non-poor Hispanic youth. In addition, migration increases with the rate of poverty in the originating county. No adequate explanation for this characteristic of Hispanic youth could be found in the human capital variables or poverty indicators tested in the study; sex, occupation, unemployment, education, public assistance, and poverty status. According to the (1988) Census Bureau 28.2 percent of America's 20 million Hispanics live in poverty.

16. Saenz, Rogelio and John K. Thomas. "Minority Poverty in Nonmetropolitan Texas." *Rural Sociology* 56 (1991), pp. 204-223.

Texas is a large and diverse state, with an equally large and diverse population of minorities; 26 percent are Latino and 12 percent are black (1985). One in four Texas counties has a poverty rate greater than 30 percent, while 60 percent of all counties have poverty rates of 20 percent or more. An analysis of individual, household, and structural factors shows the similarities and differences of the poverty experienced by rural Texans. Policymakers need to recognize the impact of racial and ethnic diversity on the effectiveness of poverty programs, and tailor them accordingly.

17. Brown, F. Lee and Helen M. Ingram. *Water and Poverty in the Southwest*. University of Arizona Press, 1987.

This book examines the social, political, and economic aspects of the highly complex water rights system of the Southwest, and its impact on the control and use of water by the rural poor. Two case studies focus on Hispanics in north central New Mexico, and Indians in south central Colorado, where both populations have high levels of poverty and substantial water use or unrealized water claims. Beyond the economic losses, the authors contend that the rural poor have been kept from empowerment by excluding them from participation in water resource decisions. But as water management replaces water resource development in the region, the rural poor have an opportunity to bargain for shared power over water resources.



Woman, children and the elderly.

18. Northrop, Emily M. "The Feminization of Poverty: The Demographic Factor and the Composition of Economic Growth." *Journal of Economic Issues* 24 (1990), pp. 145-160.

Half the households living in poverty in 1986 were headed by females, which is twice the rate of 1960. Between 1979 and 1983, the portion of female headed poverty households dropped, but then rose again. A comparison of female- to other-headed households explains the reversal in terms of employment structure and economic growth. Females are more concentrated in the comparatively stable service sector of the economy, but earn wages too low to escape poverty. Males, on the other hand, are more likely to work in the higher wage, but less stable, manufacturing sector.

19. Rogers, Carolyn C. *The Economic Well-Being of Nonmetro Children*. Agricultural and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture, Rural Development Research Report No. 82, March 1991.

One in four nonmetro children live in poverty, compared to one in five children living in metropolitan areas. Children in mother-only families are more likely to be poor than are those in married-couple families. Analysis of 1988 Current Population Survey data found an increased likelihood of child poverty among families with female householder, low parental education, an increased number of siblings, and residence in a nonmetro area. Participation in various non-cash programs is about even, while proportionately more nonmetro children benefit from the food stamp program than do metro children.

20. Kaiser, Marvin A. "The Aged in Rural America." In *Rural Policies for the 1990s*, edited by Cornelia B. Flora and James A. Christenson. Westview Press, 1991.

Rural communities face the same aging demographics as the rest of society, but they lack many of the institutional structures necessary to cope with the change. Many rural places have been left with a disproportionately large share of elderly residents, as rural youth have migrated to urban areas in search of economic opportunities. Policies need to address the inadequacies of health care and social services availability in rural areas. The rural elderly need expanded opportunities to remain productive and active members of society, while rural communities need support programs to help them remain viable places to live for the young and old alike.

### III. **Rural water quality:** non-point source pollution.

21. Fritsch, Albert J. *Communities At Risk: Environmental Dangers in Rural America*. Renew America, 1989.

Six areas of special environmental concern to rural America are addressed in this report; water pollution, air pollution, soil erosion, land misuse, pesticide contamination, and solid waste disposal. Rural water sources are being threatened by depletion and contamination. Agricultural activities, leaking underground storage tanks, and industrial pollution contribute to the declining quality of surface and groundwater resources in rural areas. Policy recommendations to reduce water pollution include imposing volume-based industrial user fees, promoting compost toilets, and providing additional support for technical assistance to rural poor communities.

22. Lovejoy, Stephen B. and Jerald J. Fletcher. "Water Quality and Agriculture." In *Rural Policies for the 1990s*, edited by Cornelia B. Flora and James A. Christenson. Westview Press, 1991.

Nonpoint source pollution from agriculturally related activities contributes between 50 and 70 percent of the quality problems with surface water supplies. All levels of government must work toward influencing farm production to optimize output, while minimizing environmental damage to water resources. Soil conservation programs should 1) include more explicitly water resources in their conservation objectives, and 2) permanently retired from agricultural production areas that are environmentally sensitive.

23. D'Itri, Frank M. and Lois G. Wolfson, coed. *Rural Groundwater Contamination*. Lewis Publishers, 1987.

Agricultural activities contribute to groundwater pollution in many rural areas. Nitrogen in particular is not only an important source of contamination, but also a good indicator that other contaminants are present. This book examines from an agricultural and scientific perspective the sources and impacts of nitrogen contamination. It also tries to explain how health risk assessments and water quality standards are developed. Finally, some examples of state and local regulatory and management strategies for protecting groundwater quality are reviewed.

24. Ankumah, R.O and Peter Mount. "Water Quality: A Long Term Program for the Black Belt Counties in Alabama." In *Outreach to the Rural Disadvantaged: Issues and Strategies for the 21st century*, edited by Baharanyi, Ntam, Robert Zabawa, and Walter Hill. Tuskegee University, 1990.

The Coastal plains of Alabama have been identified as a region susceptible to groundwater contamination from agricultural pollutants. This 12-county region (part of the Southern Black Belt) is also home to nearly 400,000 persons, many of whom are poor. A water quality program organized by the Tuskegee University has begun water testing and training programs for extension personnel working

in the region. Rural communities are given technical support in solving their water quality problems, and water testing is provided at minimal cost. The project is also researching the link between agricultural production and community drinking water contamination.

25. Great Plains Agricultural Council Water Quality Task Force. *Agriculture and Water Quality in the Great Plains: Status and Recommendations*. 1991.

The Great Plains is a nine state region with shared problems in balancing their agricultural economies and the quality of their water resources. After identifying the most pressing issues, the task force makes specific recommendations for improving the regions agriculturally related water quality problems. Education, research, and technical support are central to many of the solutions outlined.

26. Warner, Dennis and Jarir S. Dajani. *Water and Sewer Development in Rural America*. Lexington Books, 1975.

This book examines the potential impacts on individuals and communities from developing rural water and sewage treatment facilities. Mortality, nutrition, morbidity, and personal hygiene are considered, and through a review of the literature an association is made between the improvement in water and sewer facilities, and a decline in the incidence of diarrheal disease and dysentery. Economic and environmental impacts are also included in a rich list of arguments favoring an increased commitment to the development of rural water and sewer systems.

Point source pollution abatement.

27. Beverly, Lucia H. *Status of Water and Sewage Facilities in Communities Without Public Systems*. Economic Development Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 143, October 1968.

This study examines the number, location, and size of communities without water systems or wastewater treatment facilities in the early 1960's. Two thirds of the 56,600 communities with more than 25 residents were lacking public drinking water facilities in 1963. This affected 21 percent of the U.S. population, or 44 million people. Over 44,000 communities were without public sewer systems in 1962, affecting an undetermined number of people. Overall, water and sewer systems were most lacking in the South, and the most well developed in the West and Northeast. Not surprisingly, the smaller the community, the less likely it was to have a public water or sewer system.

28. Ryan, Barry. *Assessment of Wastewater Treatment Facilities in Small Communities*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report 9140, August 1991.

The cost of bring facilities serving communities under 10,000 people into compliance with the sewage treatment requirements of the Clean Water Act is estimated at \$13.7 billion. The total investment needed (in 1988) for the entire U.S. is estimated at \$63 billion. Keeping up with population growth over the next 20 years will require significant additional spending as well. Small communities (of 10,000 persons or less) make up one-quarter of the spending backlog, but represent three-quarters of the community facilities in need. Most small facility needs are for new systems to replace current on-site disposal methods. Where small facilities do exist, they are operating at 80 percent of their design capacity. One in five, however, is operating in excess of its design flow.

29. Ryan, Barry. *Estimates of Wastewater Treatment Capital Requirements in Rural America*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report AGES861218, April 1987.

The 1984 estimate of needed wastewater treatment capital spending in rural American was \$20.2 billion. This is down 25 percent, when measured in real dollars, from the estimated needs of just 6 years earlier. Over the same period, 16.5 million rural residents began receiving sewage treatment services, bringing the total to 51.5 million. Significant regional and community size differences underlie these dramatic changes. In general, the South saw the greatest reduction in needed spending, while in the West the backlogs grow. The smaller the community, on average, the less likely it was to have received financial help. Also important to the overall decline in rural needs were the definitional and documentation requirement changes of 1980, which eliminated nearly one-third of the estimated 1978 capital spending backlog.

30. Stinson, Thomas F., Patrick J. Sullivan, Barry Ryan, and J. Norman Reid. *Public Water Supply in Rural Communities: Results from the National Rural Community Facilities Assessment Study*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES 89-4, January 1989.

More than half the Nation's rural water systems have no emergency water supplies. Three-quarters of all rural systems depend on groundwater withdrawals, yet one in three are pumping at or above safe yields. Nearly all rural water systems test their drinking water for coliform bacteria to detect pathogenic contamination, but one-third of the tests made in 1980 indicated unacceptably high levels of coliform. These and other finding are based on a 1980 statistical sampling of nonmetropolitan communities with populations of 50,000 persons or less. Survey data is reported by community size and census region for a variety of details concerning rural water systems.

#### IV. **Income and the Rural Economy.**

31. Deavers, Kenneth L. and David L. Brown. *Natural Resource Dependence, Rural Development, and Rural Poverty*. Economic Development Division, Economic Research Service, U.S. Department of

The economic dependence of rural counties on agriculture, mining, and Federal landownership is only weakly connected with poverty or population decline. While these resource dependent counties represent 42 percent of all nonmetro counties, they contain less than 25 percent of the total rural population. They are less likely to be adjacent to an urbanized area or near an interstate highway, and are in general more sparsely populated than the average rural county. Consequently, government programs that target the "dependent" nature of these counties will not effectively alleviate low-income conditions. Welfare reform (national minimum payment standards) is offered as the best hope for reducing persistent poverty conditions, particularly in the rural South.

32. Freudenburg, William R. "Addictive Economies: Extractive Industries and Vulnerable Localities in a Changing World Economy." *Rural Sociology* 57 (1992), pp. 305-332.

Extractive industries are caught in a cost-price squeeze, brought on by global competition and other factors, which has led to significant job losses in rural areas. Like the highly specialized skills of the mine worker, many rural communities have "overadapted" to the host industry by investing in facilities and services that are of little use without the mining activity. This leaves both groups open to exploitation by the industry for wage and tax concessions in exchange for short-term job benefits. While it is easy to suggest rural extractive-dependent communities diversify their economies, alternatives are often hard to find.

33. Barnes, Donna and Audie Blevins, "Farm Structure and the Economic Well-Being of Nonmetropolitan Counties." *Rural Sociology* 57 (1992), pp. 333-346.

The well-being of rural communities has not been adversely affected by the increase in farm size. Indeed, there is a positive relationship between median income and farm size in farm dependent counties. Inverse relationships exist between farm size and poverty, as well as poverty and the percent of population that is hired farm labor. The level or degree of farm dependence is an important distinction when examining the impact of agricultural changes and community well-being in nonmetropolitan counties.

34. Majchrowicz, T. Alexander. *Pattern of Change in the Rural Economy, 1969-86*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture, Rural Development Research Report No. 73, December 1989.

Not since the early 1970's has rural employment and earnings per worker outperformed those of urban areas. Rural areas have suffered greater losses during recessions, and made lesser gains during recovery periods. Unemployment has been higher in rural areas since 1978. Within rural America, regional and industry differences are also evident. Over the 1969-86 period, the West outperformed the Midwest in producing both jobs and income. In the Northeast, nonmetro counties adjacent to urban areas grow more slowly than non-adjacent counties. Service industries in rural areas did better than goods-producing industries, such as farming and mining. Areas that cater to retirees, however, had strong growth in both goods- and service-producing sectors.

35. Morrissey, Elizabeth S. *Work and Poverty in Metro and Nonmetro Areas*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Rural Development Research Report No. 81., June 1991.

Nonmetro workers are more likely to work and still be poor, than workers living in metropolitan areas. They face a more limited job market, both in terms of the number of jobs and in the level of wages. In addition, nonmetro workers are less well educated than their metropolitan counterparts. In both areas, minorities and female-headed households are equally disadvantaged. The combined affect of more limited employment opportunities and lower human capital skills puts nonmetro workers at a greater risk of becoming trapped in poverty. A strong national economy and targeted low-income assistance is the best hope for improving conditions among the rural working poor.

36. Rowley, Thomas D., John M. Redman, and John Angle. *The Rapid Rise in State Per Capita Income Inequality in the 1980's* Economic Research Service, U.S. Department of Agriculture. Staff Report AGES 9104, January 1991.

Measured by the coefficient of variation, income inequality among states increased during the 1980's, largely due to earnings differences. This increase is significant in that it reverses a 50-year trend toward greater equality in state level incomes. Regionally, the Atlantic Coast States and New England experienced strong economic growth during the decade, raising incomes and the measure of relative (interstate) inequality. The remaining states east of the Mississippi had no significant income movements with respect to the national mean. West of the Mississippi, a downward divergence from the income mean was evident, particularly in the energy states of the Great Plains. Overall, states dependent on farming and manufacturing also did poorly during this period, while high-technology and producer services states tended to do much better.

#### V. **Defining the Nature of "Rural".**

37. Willits, Fern K., Robert C. Bealer, and Vincent L. Timbers. "Popular Images of 'Rurality': Data from a Pennsylvania Survey." *Rural Sociology* 55 (1990), pp. 559-578.

A survey of urban, suburban, and rural Pennsylvanians found an overwhelmingly positive image of the virtue and goodness of rural people, places, and things. Most respondents thought that open country and wilderness areas were important and should be preserved. All agreed that farming was an industrious and virtuous lifestyle, however, suburban residents were least likely to endorse all of the agrarian values. Negative images do exist with respect to the isolation, and lack of employment opportunities and public services in rural areas.

38. Rochin, Refugio I., Yoshio Kawamura, Douglas B. Gwynn, and Edward Dolber-Smith. "California's Rural Poor: Correlations with 'Rurality,' Economic Structure, and Social Dimensions". In *Rural Development Issues of the Nineties: Perspectives from the Social Sciences*, edited by Thomas T. Williams, Walter A. Hill and Ralph C. Christy, Tuskegee University, 1988.

Pockets of "rural" poverty can be found in metropolitan as well as nonmetropolitan California counties. They include significant numbers of whites, Hispanics, Native Americans, female-headed households, the very young and the very old. Poverty among rural blacks and Asians is relatively low. The rural poor score higher on a social need index than the urban poor, and yet have less access to social programs. Overall, the state has 3.74 million people living in poverty; the rate in rural areas is 18.9 percent, and 13.6 percent in urban areas.

39. Weinberg, Daniel H. "Rural Pockets of Poverty." *Rural Sociology* 52 (1987), pp. 398-408.

Poverty conditions from high poverty rate counties spillover into bordering counties,

independent of labor-market, demographic, institutional, and fiscal correlates of poverty. Simply being physically adjacent to a high poverty rate county can increase the bordering county's poverty rate by 3.4-3.8 percent. Regional development efforts, therefore, may be a more effective approach to reducing poverty than a targeted approach.

40. Farmer, Frank L., Albert E. Luloff, Thomas W. Ilvento, and Bruce L. Dixon. "Rural Community Studies and Secondary Data: Aggregation Revisited". *Journal of the Community Development Society* 23 (1992), pp. 57-70.

Rural community researchers have long been forced to use counties as proxies for "community", since counties were the lowest common delimiter for national secondary data. The 1990 Census, however, offers rural boundary units down to the census tract or block numbering area level. One way to operationalizing the measure of community is by defining different, but comparable or equivalent analytical units across the country. How researchers define and organize these units will have significant implications on their findings.

41. Ilvento, Thomas W., Kim Fendley, and James A. Christenson. "Political Definitions of Rurality and Their Impact on Federal Grant Distribution: The Case for the Farmers Home Administration". *Journal of the Community Development Society* 19 (1988), pp. 1-20.

The definitions of "rural" for purposes of allocating low-interest loans and grants under the various Farmers Home Administration programs has evolved overtime to include areas as large as 50,000 persons. An examination of Kentucky's FmHA program funding for fiscal year 1980 found that counties adjacent to urban areas receive higher per capita funding than do nonadjacent counties. Per capita funding is higher in nonmetropolitan counties for all FmHA programs, except community development grants. The percent elderly, and the number of farms in a county are highly correlated with FmHA spending, yet the percent of poverty is not significantly related, as might be expected. The single most important predictor of higher per capita funding in a county is the presents of a Framers Home Administration office.

42. Molar, Joseph J., Robert G. Nelson, and David McGranahan. "Rural Social Structure and Populations." In *Rural Information Systems: New Directions in Data Collection and Retrieval*, edited by Rueben C. Buse and James C. Driscoll. Iowa State University Press, 1992.

The demand for rural community information (to assess need, plan action, and evaluate policy response) is outpacing the supply of detailed and reliable data. Population, income (poverty), employment, and cost of living data rank as top priorities in a survey of rural researchers needs. Sparse and declining rural populations continue to make the financial costs of collecting reliable higher, while lowering the political costs of not collecting the information.

43. Fortmann, Louise and Jonathan Kusel. "New Voices, Old Beliefs: Forest Environmentalism Among



New and Long-Standing Rural Residents." *Rural Sociology* 55 (1990), pp. 214-232.

Rural residents are as concerned about the environment as urban dwellers, but have not been as vocal. The arrival of urban transplants into rural areas is giving a new voice to longtime rural residents. Survey results of new and longstanding residences of forested areas of California found this new pro-environmental voice is increasingly a female voice.

44. Chan, Arthur H. "Rural Community Values in Groundwater Marketing." *Journal of Economic Issues* 24 (1990), pp. 463-472.

Attention needs to be given to local community values when assessing the economic value of groundwater being marketed to outsiders, such as distant urban communities. Beyond its value as a commodity, groundwater is important to the social organization of rural communities. Water marketing arrangements must be seen in the community as a fair and just process. Local autonomy in decisionmaking needs to be recognized, as well as the stewardship beliefs of local residents. Finally, a full accounting must be made of the community's opportunity costs from transfer of their water resources.

VI. **Policy Response:** poverty programs.

45. Greenstein, Robert and Isaac Shapiro. "Policies to Alleviate Rural Poverty." In *Rural Poverty in America*, edited by Cynthia M. Duncan, Auburn House, 1992.

Compared to urban poor, the rural poor are more likely to be employed, living in a two-parent family, or elderly. Hence, they would benefit most from policy initiatives that favor these characteristics, such as a stronger earned income tax credit or higher minimum wage standards. Health care and child care also need to be considered in the income equation of the working rural poor. Low-income rural elderly would benefit from higher Social Security Insurance payments, and in some cases family credits for dependent care. Higher food stamp benefits would significantly help the rural poor in states with low supplemental welfare benefits.

46. Christy, Ralph D. and Enrique E. Figueroa. "The Impacts of Structural Change and Public Policy on the Rural Disadvantaged." *American Journal of Agricultural Economics* (1990), pp. 1169-1178.

American agriculture has experienced far-reaching technological and institutional change over the last 40 years, but there has been an inadequate policy response to help minorities working in the industry adjust. The lack of human capital investment in black farmers and Hispanic farmworkers has contributed to the rise in rural poverty. Minority discrimination, their lack of political influence, and unclear policy objectives also contribute to the failure of these groups to keep pace with industry changes.

47. Reeder, Richard J. *Targeting Aid to Distressed Rural Areas: Indicators of Fiscal and Community Well-Being*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES 9067, November 1990.

Targeted aid formulas based on socioeconomic indicators, if not carefully chosen, may work against distressed rural communities. Some indicators, such as unemployment or population size, tend to be biased in favor urban areas. On the other hand, rural communities may benefit more from formulas based on fiscal capacity, which typically is lower in rural areas. States may target aid to distress communities better (using federal block grants) than national aid formulas, because of their access to more detailed and timely data. Policymakers need to carefully balance the benefits of requiring local matching funds, against the prospect of pricing low-income communities out of programs.

48. Wrightson, Margaret and Timothy Conlan. "Targeting Aid to the Poor: What have we learned about allocating intergovernmental grants ?" *Policy Studies Journal* 18 (1989), pp. 21-46.

The distributive politics of Congress during periods of budget retrenchment often translates into less aid for poor people and poor places. In hard budgetary times, Congressional coalition building brings about more narrowly defined welfare programs, and less targeted aid to poor places; the opposite seems to be true during periods of budgetary expansion. Entitlement's for poor people and intergovernmental aid for poor communities may be more strongly influenced by politics and coalition building, than concerns for their redistributive effects. Sharing the pain of retrenchment appears to be more politically palatable to members of Congress, than sparing poverty programs from budget cuts.

49. Stinson, Thomas F. and Ronald B. Larson. "A Poverty of Government Services." In *Applied Poverty Research*, edited by Richard Goldstein and Stephen M. Sachs. Rowman and Allenheld Publishers, 1983.

Measuring poverty strictly in terms of income, fails to recognize the importance of access to government services, such as education. An examination of county level expenditures between 1962 and 1977 found mixed improvements in the delivery of minimum adequate levels of public goods and services, depending on the definitions and dynamics of the standards used to define "adequate". Regardless of whether the standard was kept constant overtime, or allowed to change with tastes, incomes and other factors, there was a significant decline in the number of counties with "substandard" levels of public expenditures. Education expenditures, however, appeared more sensitive to these definitional changes, and under a dynamic standard a significant number of additional counties fell behind.

Environmental programs

50. Swaney, James A. "Response-Ability of Environmental Controls." *Journal of Economic Issues* 21

(1987), pp. 911-919.

The current institutional structure of pollution control policy tends to allocate the value of environmental services to whomever happens to be using them. Private firms, in an effort to minimize costs, will transfer as many costs as possible onto the environment and society. A new mechanism of social control over environmental services should be gradually phased in, under which environmental requirements are met through flexible compliance to fluid standards. A market incentives approach, complete with depreciation schedules for pollution rights, should be established.

51. Environmental Protection Agency, Office of Policy Planning and Evaluation. *Municipal, Small Business, and Agriculture: The Challenge of Meeting Environmental Responsibilities*. September 1988.

Farms, small businesses, and local governments face an escalating array of rules and regulations from the Environmental Protection Agency. This report attempts to estimate the cost of 85 new EPA mandates on each of these sectors. Compliance by local governments alone will increase by \$100 a year per household by 1996. However, in communities with less than 2,500 persons the potential average annual increase is likely to be closer to \$170. These increases are expected to prove financially difficult for 21 to 30 percent of all such small communities. It should be noted, that these estimates include only part of the regulatory costs of recent drinking water, sewer disposal, and solid waste disposal mandates. The report calls for further research into identifying the characteristics of those small community that will most need assistance.

52. Blomquist, William. "Exploring State Differences in Groundwater Policy Adoption, 1980-1989." *Publius* (1991), pp. 101-115.

Groundwater supply-management and quality-protection policies were adopted by many states during the 1980's for separate reasons. States that adopted supply-management policies were significantly more dependent on groundwater supplies than were non-adopting states. States that adopted quality-protection policies were more likely to have a strong moralistic political culture governing in the public interest, and significantly higher numbers of groundwater contaminants. Wealthier states were no more likely to adopt either policy, or was the presents of a dominate economic, special interest group a differentiating factor in the policy adoption process. Intergovernmental relations need to reflect these policy response differences when developing state groundwater supply-management and quality-protection programs.

53. Smith, Zachary A. "Water and Federalism in the 1990s" *Publius* (1992), pp. 129-139.

Congress and the courts have been inconsistent in interpreting federalism as it applies to water resource management issues. Consequently, intergovernmental conflicts between states and the federal government are increasing. Three examples in stream flow protection are reserved water rights, hydropower permitting, and endangered species protection. At the same time, cutbacks in federal support for municipal pollution control and water quality programs have been coupled with an increase in environmental mandates.

54. Tobin, Richard J. "Environmental Protection and the New Federalism: A Longitudinal Analysis of State Perceptions." *Publius* (1992), pp. 93-107.

Despite rhetoric by Presidents Reagan and Bush for a better intergovernmental partnership between the Environmental Protection Agency and states, the relationship has not significantly improved since 1979. According to state air- and water-quality program directors, the federal government's presence in environmental regulation has grown, while states have increasingly found themselves excluded from policy formulation. The only exception has been in the area of enforcement action. Regardless of the state's record on environmental protection, federal officials appear to be indiscriminate in their lack of confidence in states. The reluctance by federal officials to share power may stem from the way Congress holds them responsible for carrying out its environmental mandates.

55. O'Toole, Laurence J., Jr. "Goal Multiplicity in the Implementation Setting: Subtle Impacts and the Case of Wastewater Treatment Privatization." *Policy Studies Journal* 18 (1989), pp. 1-20.

Private, for-profit firms design and construct community wastewater treatment facilities more quickly and smoothly than do local governments. In both cases the primary objective of high quality effluent is met, but privatization often fails to fulfill secondary policy goals. Autonomy, accountability, and greater technical capacity at the local level are undermined when contract operators provide community sewage treatment. Risk-averse, private firms tend to avoid innovative plant technologies, whereas alternative technology use in grant-funded projects often leads, in the long run, to lower construction, operation and maintenance costs. Public projects may also encourage greater affirmative action and equal employment opportunities, and provide higher paying union jobs, than do private contractors.

56. Rowley, Thomas D., Neil S. Grigg, and Clifford V. Rossi. "Water and Wastewater Investment to Promote Economic Development." In *Infrastructure Investment and Economic Development: Rural Strategies for the 1990's*. Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES 9069, December 1990.

While the need for rural water and sewage treatment systems is well established, the link between these facilities and community economic development is not. Water and wastewater facilities are considered a necessary element of any rural development strategy, but investing in these factors alone is not enough. The only exception might be where the lack of adequate facilities is the binding constraint on development opportunities.

57. Steinnnes, Donald N. "An Analysis of Infrastructure Provision and Local Economic Development Policy." *Journal of the Community Development Society* 21 (1990) pp. 33-53.

Government policies that provide direct business subsidies, (such as industrial revenue bonds or tax increment financing), have grown in importance at the expense of infrastructure investment. The relationship between manufacturing job growth and government provision of transportation, educational, and cultural facilities is established using a policy evaluation model. Local economic development and job creation does result from government infrastructure investment.