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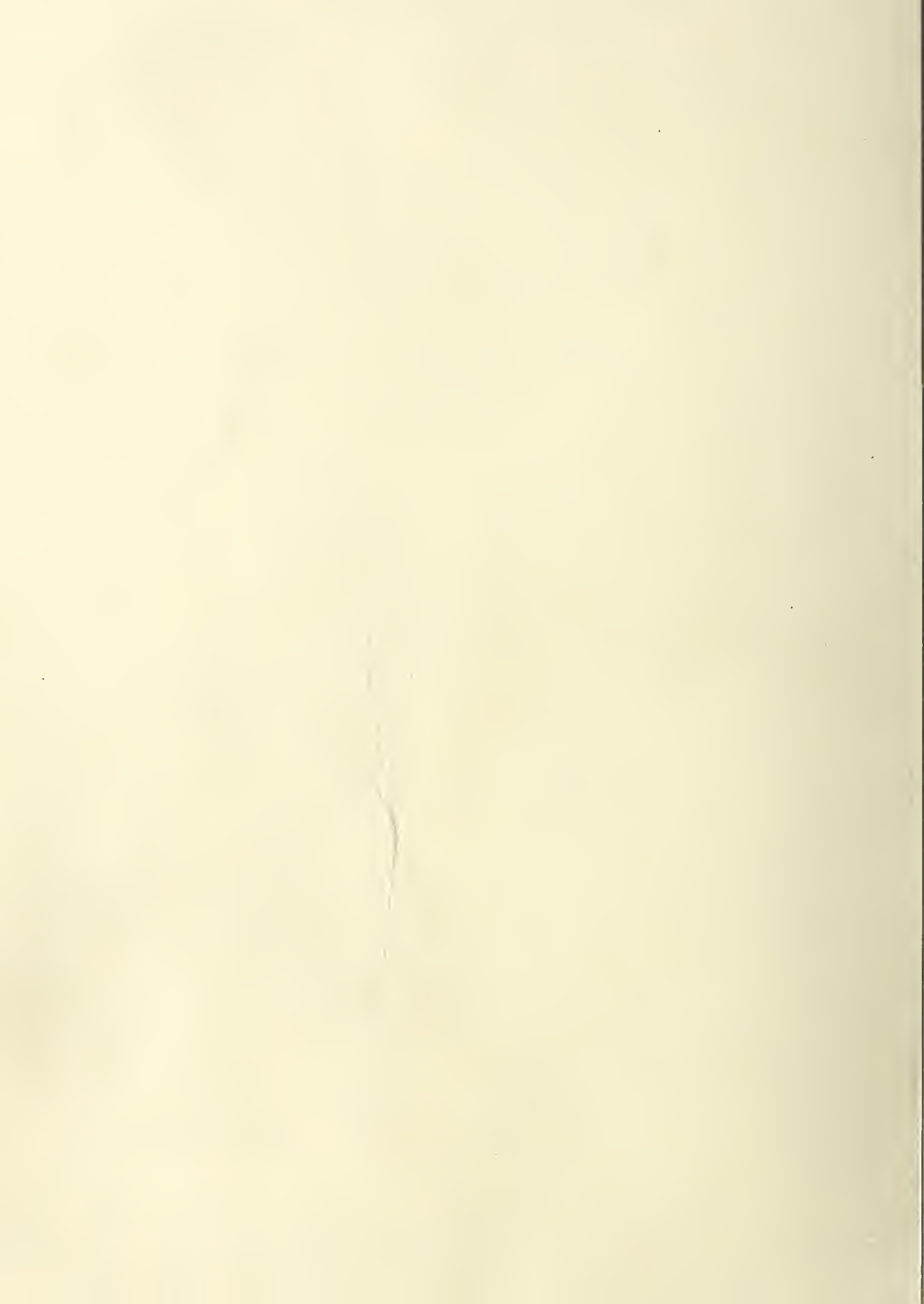
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SUMMARIES OF SELECTED STUDIES ON TRAINING OF WORKERS AND MIGRATION  
FROM LOW-INCOME RURAL AREAS

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## PREFACE

Recently, the author made a survey of the literature in developing a research project to study ways of providing more job opportunities for workers in low-income rural areas by improved education for adults and secondary school pupils. At the request of several individuals with interest in rural development, the summaries of these studies are compiled to aid other workers in the area. The review is not presented as a complete bibliography. Since several disciplines are involved, a complete work would be out of the question. Some references were not available, while others are summarized in works cited or the results are similar to those reported in publications included. Some works available to the author in draft form, but not published, were not included.

Most of the reports summarized attempt to explain the difference in attributes of individuals or to describe the relationships between different segments of the population.

Appreciation is expressed to the many individuals who cooperated in providing publications included.

The references have been grouped under eight headings and are entered in chronological order.

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SUMMARIES OF SELECTED STUDIES ON TRAINING OF WORKERS AND MIGRATION  
FROM LOW-INCOME RURAL AREAS

By M. R. Janssen, Agricultural Economist

THE PROBLEM

In the United States many rural areas have numerous unemployed or underemployed workers because the number of laborers is large in relation to the other resources available in production. The natural increase in the population exceeds the growth in income. As a result, incomes in such areas decline in relation to national levels. Individuals must migrate to other areas where more resources and jobs are available, or additional resources need to be brought into the low-income area to create employment for more workers.

Both farms and farmworkers have declined in number since 1935. In low-income rural areas, at least five out of every six young people on farms must seek off-farm employment to have full-time jobs. If adjustments in farming proceed rapidly and resources of underemployed farmers are combined into larger economic units, an even greater percentage will need to seek off-farm employment. However, mobility studies indicate that it is difficult for young people to make geographical and occupational moves to job opportunities unless they possess some basic skills or unless a severe labor shortage exists.

A large segment of the adult population of low-income rural areas does not possess the skills necessary to hold a job outside of agriculture. Many have not had a high school education. Young people who have not completed high school and do not have a vocational skill spend more time finding a job, are unemployed for longer periods and work in less skilled occupations and at lower wages than those who have completed high school; if they migrate to other areas they also find it more difficult to adjust to the community in which they settle.

The schools need to provide training necessary for young people to attain vocational and other employment objectives. It is also desirable for rural secondary schools to provide guidance to students seeking employment opportunities in the local and other areas.

Programs are also needed to train mobile adults in low-income areas for jobs or to give them additional schooling in areas with greater employment opportunities, leaving more resources per worker. A program for

adults could take several forms: (1) Adult education in the school system, (2) extension education, (3) specialized technical education by periodic group classes in an area, (4) vocational area instruction, or (5) improved basic training.

In Indiana, the state commission is currently studying alternatives for training of adults, and will make recommendations to the 1963 Indiana General Assembly. Schools in the State are being reorganized administratively, forming the basis for achieving attendance units with enough students for broader curricula.

Some research workers are of the opinion that training will not contribute to national economic growth, particularly in the short run, but will merely shift unemployment and underemployment to different segments of the labor force. There is some evidence to indicate that these shifts will tend to reduce the marginal productivity of some workers, but total employment, gross national product, and disposable income will increase. As a result, the total welfare and the distribution of incomes generally will be improved.

The training of workers may change the relative advantage of location of some industries, particularly service industries. Thus, new resources may be placed in some low-income areas and provide job opportunities.

## LITERATURE SUMMARIES

### Low Income Problem in Rural Areas

1. MOORE, A. Underemployment in American agriculture, a problem in economic development. Nat'l. Plan. Assoc. Pamp. 77, 1952.

Moore concluded that underemployment should not be solved by a general exodus of farm workers to cities, as increasing food needs would require substantially the same farm population. Yet he recognized there was a high birth rate on farms and a surplus farm population. He felt the need in the southern parts of Illinois, Indiana, and Ohio was to increase the number of full-time nonfarm jobs. The area meets most of the needs of industry seeking to decentralize. Small farms can be made more productive by more intensive enterprises.

2. MILLER, H. P. Income of the American people. Wiley, New York, 1955.

Miller studied census data for 1949 and found that incomes of workers increased with education. White workers received higher earnings than nonwhites. Workers in the South had lower incomes than similar workers in the North and West, except for whites with four or more years of college. Only unskilled workers had a higher percentage than farmworkers with no education or with only 1-4 years of school.

3. U. S. DEPARTMENT OF AGRICULTURE. Development of agriculture's human resources--a report on problems of low income farmers, message from the President of the United States to the Congress, House Document 149, 84th Cong. 1st Session, Washington, April 27, 1955.

In this report on low-income farm problems, several approaches were suggested. Increased productivity in agriculture can help on larger units in some low-income areas. Another method is increased opportunities for training young people. The report recommends that, in cooperation with the Department of Health, Education, and Welfare, local communities set up experimental vocational training programs to improve the individual's opportunities to prepare for off-farm employment. These would develop techniques for counseling and guidance, testing for aptitude, and special instruction adapted to farm areas.

4. MITCHELL, J. P. The farm worker in America. Monthly Labor Rev. 82: 396-398, Apr. 1959.

Mitchell feels that too many farmworkers live and work under inadequate conditions. Yet farmers need reasonable assurance of a supply of labor. A large number of underemployed agricultural workers are not protected by legislation. They are subjected to competition from foreign labor. Protection is needed in wage law legislation, and foreign-labor programs should be limited. Standards for employment conditions and recruitment are needed to protect interests of farmers willing to promote the economic advancement of underemployed domestic farmworkers.

5. HENDRIX, W. E. Income improvement prospects in low income areas. Jour. Farm Econ. 41:1065-1075, Dec. 1959.

Hendrix states that unemployment and underemployment in agriculture are caused by noncompetitive forces outside the agricultural sector. He feels that administered prices of farm products cannot be responsible for underemployment so long as competition prevails among wage-earners in agriculture. Three conditions make agriculture more vulnerable to underemployment than other industries: (1) Since agriculture is competitive, restrictions on entry of laborers or self-employed workers into agriculture occur only when considerable capital is needed; (2) agriculture has a supply of labor that exceeds nonfarm demand and permits selectivity in hiring workers on the basis of age, education, physical condition, ethnic or geographic origins, or accessibility; and (3) agriculture has a natural labor increase accompanied by a declining need for labor as technology changes.

6. MACKIE, A. B., and BAUM, E.L. Problems and suggested programs for low income farmers. Div. Agr. Relat., Tennessee Valley Authority, TVA Report T 60-2 AE, 1959.

Mackie and Baum concluded that underemployment is due to shortage of land and capital resources in relation to human resources. They found that for the U. S. as a whole, farms with higher incomes had operators with

higher levels of education. Adoption of a new technology is related to the education of the operator. They believe that it may be unnecessary to refine measurements of management before we can improve educational programs for farmers. Agricultural programs should help those families desiring to get into nonagricultural occupations as well as those desiring to remain in agriculture. Such programs should consider the needs, aspirations, resources, family attitudes, and educational level of the farm families toward whom the programs are directed. Programs for small farmers must stress: (1) Capital and credit, (2) land and resource use, (3) management, (4) production and marketing, (5) adoption of improved practices, and (6) exploration of off-farm income opportunities. Intensive education is needed to adopt better practices and accumulate capital to finance new technology. Agricultural programs should reorient 4-H and vocational agriculture activities for human and physical resource development.

7. INMAN, B.T., and SOUTHERN, J. H. Opportunities for economic development in low production farm areas. U. S. Dept. Agr., Inf. Bul. 234, 1960.

Inman and Southern, summarizing studies made by USDA of low-income areas, found that all low-income areas studied developed similarly. Each had natural resources that were exploited. Thereafter, few industrial opportunities appeared and economic decline occurred after 1920. Both farm and nonfarm families share in low incomes. There has been an outmigration of many of the younger, better educated, and better skilled individuals, leaving the older, the physically handicapped, and those with less education behind. Since farms in these areas usually have limited resources, farm programs have little effect on incomes of these families. Adjustments in agriculture will help farmers who make adjustments, but will be of little help to the economy as a whole. Education and guidance are needed for youth to enter suitable vocations. Industries can be brought into such areas, but care must be exercised to insure that natural resources are used wisely so that the community will not soon be worse off than before.

8. U. S. DEPARTMENT OF LABOR. Manpower, challenge of the 1960's. 1960

The U. S. Department of Labor estimates that in the 1960's 70 percent of the new entrants into the labor force will have a high school education compared with 60 percent in the decade of the 1950's. Thus, 7.5 million young people will not have completed a grade school education when they enter the labor force. Unemployment is nearly twice as high among workers without as among workers with high school diplomas. Workers with some college education have even less unemployment. Farmers rank slightly better than unskilled laborers in amount of education received.

9. METZLER, W. H., and ARMENTROUT, W. W. Rural development problems and prospects. West Va. Agr. Expt. Sta. Bul. 444, 1960.

Metzler and Armentrout studied three counties in West Virginia. Employment in coal mining has declined and incomes in agriculture are low. Several elements of a solution were suggested, including expansion of farms. Since few people indicated any thought of leaving the area, it was suggested that industry be expanded by using local plants more fully, processing locally produced raw materials at home, and discovering if consumption products could be processed in the area. Vocational, industrial, and trade training courses as part of high school courses were suggested. Night school for retraining should be available. Equipment needed for such training is expensive, but it is an investment for the community's future.

10. KANEL, D. Age components of decrease in number of farmers, North Central States, 1890-1954. Jour. Farm Econ. 43: 247-263, May 1961.

Kanel analyzed changes in numbers of farm operators by use of the cohort system. He studied patterns of entry and withdrawal which may be a useful tool to project the number of new farming opportunities within a specified area.

11. NICHOLLS, W. H. Industrialization, factor markets, and agricultural development. Jour. Polit. Econ. 69: 319-340, Aug. 1961.

Nicholls compared the nature of industrially advanced and less advanced counties in the Tennessee Valley and the southern piedmont for the period 1860-1960. The present industrial counties had small advantage in 1860, but hardly enough to account for present differences. Levels of farm capital per worker in 1900 were similar, and rates of migration were not sufficiently different to explain differences in farm-labor productivity. Counties without industry had insufficient out-migration for adequate levels of income. Since 1940, no area had overcome disadvantages of low income without industrialization, even with high migration rates. Nicholls concludes that it is difficult to improve farm income through natural outmigration alone.

12. FOLKMAN, W. S. Attitudes and values in a rural development area. Ark. Agr. Expt. Sta. Bul. 650, Jan. 1962.

Folkman found a highly homogeneous rural population with close primary-type group life and emphasis on personal, neighborhood interaction. Values once widely shared in the nation still survive. Some adjustments have been made, but a self-sufficient subsistence way of life prevails. A high value is placed on rural living, but some doubt exists about farming as a desirable occupation. Most people who have left the area hope their absence will be temporary, while they accumulate enough capital to live in the environment they love. Work itself may not be valued highly, but is considered a desirable means to meet certain ends. Off-farm opportunities are welcomed, especially outdoor activities.

More education for the younger generation is viewed as necessary to compete in the world. Many parents are not aware of the need to sacrifice to reach the goal.

There are no barriers to communication in the communities studied. Social equality is apparent, and this should help gain acceptance of a program of action provided it can be defined in terms of the people of the area.

#### Public Policy for Low Income Rural Areas

13. BREWSTER, J. M. The impact of technical advance and migration on agricultural society and policy. Jour. Farm Econ. 41: 1169-84, Dec. 1959.

Brewster reviewed the philosophy of our present economic and governmental farm programs. Three groups of value judgments are relevant: the work ethic, the democratic creed, and the enterprise creed. On the basis of the work ethic, we believe superior industry is an accepted merit of American life that makes technology desirable. Through the work-imperative each man is owed the equivalent of his contributions and equal opportunity to develop his potential and thus improve the lot of man. The democratic creed states all men are of equal worth and dignity, and that none is wise enough to have dictatorial power over another. Under the enterprise creed, proprietors deserve the right to prescribe the use of their resources. The Government is to prevent invasion of this power.

Technological knowledge cannot come from individual efforts of farm people. The Morrill Act produced a flow of technological advance that saw production outstrip demand. What are the impediments to outfarm migration needed to wipe out excess capacity? Some feel that better information about nonfarm opportunities, expanded labor recruitment, and grants for moving expenses are needed. Brewster feels that the non-competitive nature of the nonfarm sector precludes effectiveness of these actions within the value judgments held by farmers and others. We must have (1) A positive program of "laissez faire" to permit competition in all sectors, (2) sufficient national economic growth to move enough people out of agriculture, or (3) move excess labor out of agriculture, limit farm production by comprehensive supply controls, and transfer responsibility for excess labor to a public sector.

14. BUSSEY, E.M. Assistance to labor surplus areas in Europe. Monthly Labor Rev. 83: 569-576, June 1960.

Bussey reported on activities by European countries to assist labor surplus areas to secure industry or to move labor to industry. Great Britain makes loans and grants to industry to move to labor surplus areas and provides living and moving expenses for workers to move to an area with jobs. Belgium offers inducements for industry to locate in labor

surplus areas; little is done to move workers because of language problems. In West Germany, industrial inducements and aid to local governments for vocational training are available. Aid is furnished to those who relocate. Sweden does not move industry to labor surplus area, but moves workers to industry in the South.

15. HATHAWAY, D. E. 1960. Migration from agriculture: the historical record and its meaning. Amer. Econ. Rev. 50: 379-391, May 1960.

Hathaway contends that migration out of agriculture has affected commercial agriculture very little since migration has been from farms with few resources. While many migrants have been assimilated into the nonfarm labor force, migrating workers bear the brunt of unemployment, have lower paying jobs, and live in poor housing. Little has been done to promote new institutions necessary for rapid adjustment of resources in agriculture. However, the net effect of outmigration is good for farm and nonfarm areas. Policies are needed to cope with social and economic problems of migrations, without which improvement in agriculture is unlikely.

16. MADDOX, J. G. Private and social costs of the movement of people out of agriculture. Amer. Econ. Rev., 50: 392-402, May 1960.

Maddox visualized need to show costs and benefits of migration for the migrants, the community losing people, the community gaining migrants, and the economy as a whole.

He concludes that the cost of movement to migrants is low if a new job can be found within 10 days, but increases with the length of period without work. The cost to the losing community is especially high in the costs of rearing and educating children and may approach a total cost of one billion dollars annually for the rural sector. Other costs are loss of business and reduced values of capital investments not fully utilized or abandoned.

The cost to the receiving area is in new facilities required before tax revenues are available. Social costs of high rates of crime, delinquency, and absenteeism from jobs are important. The waste of human resources arising from slum conditions is a loss of considerable magnitude. Maddox concludes that there are areas in which public action is necessary to ameliorate inequities arising from the shift of people out of agriculture, requiring capital and income transfers for the economy as a whole.

17. MACKIE, A. B. Need for greater emphasis on capital investment in human resources in capital and credit needs in a changing agriculture, Iowa State Press, 318-334, 1961.

Mackie indicates the need to increase investments in education, since the profit system considers education as a consumption good rather than an investment. Investment is least in low-income areas requiring the most. He recommends a reallocation of some funds into vocational training

to meet the skills that are needed to establish industry. Guidance programs are needed for school children and adults. Additional employment services, unemployment benefits, and outlook services are needed to inform farm people of farm and nonfarm income opportunities. Improved agricultural education programs are needed for both scientifically minded and low-income farmers.

18. WOODWORTH, R. C., and FANNING, J. W. Relationships between capital and education in capital and credit needs in a changing agriculture, Iowa State Press, 337-346, 1961.

Woodworth and Fanning feel that little progress can be made to improve status of low-income farms through traditional programs of agricultural education to improve physical efficiency. Higher returns per dollar in educational programs can be achieved by working with the large commercial operator. Progress in improving formal education, development of better roads, and wide use of radio and TV have reduced isolation of low-income farms. The social cost of low-income farms is high and the problem does not disappear by ignoring it. Problems of some low-income farms can be alleviated by adjusting farm organization. These farms need extensive management assistance, but returns would be limited if capital is inadequate. Thus additional intermediate capital is needed to complement management assistance. Agricultural education and credit programs need to be coordinated to make best use of credit in agriculture.

19. BURKETT, W. K. Effect on nonfarm employment on agricultural development. Jour. Farm Econ. 43: 1215-6, Dec. 1961.

Burkett reviewed assumptions underlying movement of workers out of agriculture. He concluded that several conditions were necessary if labor removal is to improve incomes in farming. There must be a net reduction of labor in agriculture. Land must be situated so that it can be recombined into larger units, or small owner-operators or renters will have little improvement in incomes. Only in good land areas can freeing of labor help farm incomes. Even then, there must be farm enlargement, ample credit, and suitable community services.

#### Occupational Labor Mobility

20. DAVIDSON, P. E., and ANDERSON, H. DEWEY. Occupational mobility in an American community. Stanford Press, 1937.

Davidson and Anderson found in San Jose, Calif. inheritance of level of regular occupation seemed to decline when occupations of grandfathers, fathers, and sons are compared. However, shifts were usually small and only to the next level of skill. A measure of continuity seems to run throughout careers from first short-time jobs to regular employment. Age at the beginning of regular employment was between 16 and 18. Gradual vertical movement of workers to higher classification occurs.



21. WOLFBEIN, S. L. Job tenure of American workers. Monthly Labor Rev. 75: 257-262, Sept. 1952.

Wolfbein reported that one-fifth of workers employed in January 1951 had been on the job 10 years or more. When the base of the 1941 work force was adjusted to remove those who involuntarily went to armed forces, the proportion was even higher. Two-thirds of the workers with long tenure were over 45, and 10 percent over 65. Skilled craftsmen and foremen, operatives, farmers, and managers or proprietors were the four major groups. Clerical jobs were most numerous among women. Duration on the job varies directly with age but varies between men and women. Job tenure is longer among whites than non-whites.

22. SWERDLOFF, S., and BLUESTONE, A. The mobility of tool and die makers. Monthly Labor Rev. 75: 605-610, Dec. 1952.

Swerdloff and Bluestone studied work histories of tool and die makers. Three-fifths held only one job in 11 years. Those who changed had no strong industry attachments, but few changed their city of employment. Pay inducements were not as important in moves as personal reasons. There was little occupational mobility as skilled workers were well paid and few better alternatives could be found. Young workers changed jobs more frequently than older workers and workers with more schooling changed more frequently.

23. U. S. BUREAU OF LABOR STATISTICS. Occupational mobility of scientists. U. S. Dept. Labor Bul. 1121, 1953.

U. S. Bureau of Labor Statistics reported that scientists with Ph.D. degrees had very high geographical, employer, and industry mobility. Three-fifths had at least two different types of employers.

24. BAKKE, E. W. Labor mobility and economic opportunity. pp.1-7. Wiley and Sons, New York, 1954.

Bakke expressed the view that free movement of labor is one foundation of our society and is important in the development of our economic, political, and social institutions. Stabilities in career, family, and community restrict spontaneous job mobility. Yet some flexibility of labor mobility is needed to maintain stability and effectiveness of economic operations, ways of living, and individual action to permit adaptation to changes in opportunities and problems. The need for maximum utilization of resources forces us to ask if free employer and worker choice should be the basic procedure for manpower allocation. We have been able to permit choice, but we need to know if we can organize resources efficiently by persuasion rather than compulsion. Can we distribute our labor effectively without destroying free choice and free movement?

25. PARNES, H. S. Research on labor mobility. Social Sci. Res. Council Bul. 65, pp 73-80, 1954.

Parnes recognized that mobility can be studied from several points of view, such as goals of workers and their attainment, class structure of society, and as a functional process. He reviewed several conceptual and methodological problems. Among these are concept of mobility, definition of a job, coverage of workers, coverage of time, source of data on work histories, validity of data on work histories, and problems of analyzing work. In summarizing previous research, it was concluded that a very high rate of turnover occurs, although many workers never change jobs. Estimates vary, but about one-third of workers may be considered very stable. A somewhat smaller proportion show geographic mobility, about one-fourth to one-third of those who changed jobs. Although some changed employers, many workers after World War II returned to the same kind of job, and many wanted to go to the same job they left. Mobility within a firm is seldom measured. Mobility of all types declines with age from 20 to 65. Men are more mobile than women; Negro workers more mobile than white. Married workers have slightly less mobility than single workers. Mobility seems to increase with education. Home ownership seems to limit geographic mobility. Mobility also seems to be lower for trade union members than nonmembers. The effect of employer policies cannot be analyzed by empirical studies. Public policy may affect mobility. Policies aimed at high economic activity, improved Social Security coverage and benefits, and state employment services improve mobility. Most people do not have a job before they quit the present job. Knowledge of opportunities is limited. Seldom is it necessary to weigh the relative merits of two jobs in any formal sense. Often the new job is not as good as the old one.

26. PALMER, G. L. Labor mobility in six cities: a report on the survey of patterns and factors in labor mobility. Social Sci. Res. Council, New York, 1954.

Palmer studied mobility from 1940-1950 and concluded that mobility is concentrated in certain parts of the labor force, yet three-fifths of all workers had more than one employer. The incidence of mobility among groups of workers and kinds of job shifts follow similar patterns in different cities, but degree of mobility differed. Mobility differs with levels of skill. Usually, mobility declines as skill increases. Yet geographic mobility is probably higher and occupational mobility is lower for highly skilled and professional workers. The labor force adapts more readily to changes in industrial demand for labor than to changes in occupational structure. Mobility differs among geographic areas. As employment expands, workers are attracted to a city and adjust readily to the labor market. While workers can transfer skills to other occupations, there is a limit to the interchange between levels of skill. With high employment, voluntary job changes outnumber involuntary changes and tend to reflect an improvement in economic position, knowledge, and skills of workers. Family heads may have more mobility than other workers in the family.

## Migration from Rural Areas

27. BOHLEN, J.M., and WAKELEY, R.E. Intentions to migrate and actual migration of rural high school graduates. Rural Sociol. 15:328-334, Dec. 1952.

Bohlen and Wakeley reported on intentions of 157 high school seniors in Hamilton and Story Counties, Iowa, to migrate. They found that 81 intended to migrate, 19 intended to stay, and 57 were undecided. One year later, they found that 92 had migrated, but only 3 migrated outside Iowa.

Farm and nonfarm girls and nonfarm boys were much alike in their migration patterns, but differed significantly from farm boys. Communication with parents, socio-economic status of family, parental educational levels, age of parents, and attitude toward farm life were related to migration patterns of the youth.

Since a high proportion of young people moved from their home community, the question was raised concerning rural support of education of young people at little cost to urban areas in which they later work. The extent of migration also raises questions concerning the adequacy of the small school with its limited curriculum.

28. SMITH, E.D. Migration and adjustment experiences of rural migrant workers in Indianapolis. Ph.D. Thesis, mimeo. Univ. Wis., 1953.

Smith studied migrant workers in Indianapolis with emphasis on those with a farm background. Three main groups--northern whites, southern whites, and southern Negroes--were studied. It was found that migrants generally had less difficulty finding a job than anticipated. Housing was usually less difficult than expected, but the difficulty of becoming acculturated to the new social conditions was especially difficult for southern whites. Friends and relatives played a major role in providing job information, housing, and social contact. Generally information for southern migrants came entirely from friends and relatives. Formal communications means were effective to a limited degree for northern migrants. Northern migrants tended to be diffused in the entire city, while southern migrants tended to group in areas. Wages were higher in Indianapolis than point of origin, but differentials were for northern people. Diffusion and lower wage differentials may have been responsible for the apparent lower satisfaction with conditions by northern migrants.

Smith concludes that education is necessary to permit job seeking and adjustment to social conditions. Exclusive reliance on occupational training or basic academic skills would be a mistake. It is necessary to achieve high productive capacity and to have the needed habits and attitudes to make a satisfactory adjustment to urban life. Better information about opportunities needs to be disseminated in areas of origin to encourage people to migrate. The community accepting new migrants can help to ease the problem by assisting the migrant to become adjusted.

29. SMITH, T.L. Dynamics of rural population, Part III. Rural Sociol. 19: 78-82. March 1954.

Smith reported for the Ad Hoc Subcommittee on Population of the Rural Sociological Society on progress of research and research needs for the future. He outlined four areas of concern for rural sociologists, including rural-urban exchange of population. He felt that little was known about the whole process of migration, and we need to determine the ways in which those who leave rural areas for the cities differ from those who stay. While age, sex, and intelligence have been demonstrated as factors in migration, physical health, vigor, and natural endowments have not been studied.

Smith further indicates the present limited data available and some of the limitations of the present methods of analysis. He suggests possibilities for improving the present data and its use.

30. WILKENING, E.A. Techniques of assessing farm family values. Rural Sociol. 19: 39-49, March 1954.

Wilkening studied responses of 170 farm families to determine methods of measuring values of Wisconsin farm families in which both husband and wife were living and who had owned farms 3 years or more, were without physical or speech handicap, and had a child between 12 and 19 years of age. There was a high association between verbal indices of family values and responses to hypothetical situations, ranking of family goals, and response to open-end questions. Use of direct questions is limited to areas in which aspirations are distinct, as in education. Hypothetical situations can be made more useful by extending the range and number of situations presented. Ranking of family goals indicates specific value orientation better than open-end questions. Ranking of family goals is valid for values of same level of generality. Behavioral indices are valid when behavior is not highly influenced by situational factors.

31. SCUDDER, R., and ANDERSON, C. A. Migration and vertical occupational mobility. Amer. Sociol. Rev. 19: 329-334, June 1954.

Scudder and Anderson reported a study of vertical occupational mobility in a rural community in Kentucky. Migrants had greater mobility than their fathers by reaching a higher prestige occupation.

32. PIHLBLAD, C. T., and GREGORY, C. L. Selective aspects of migration among Missouri high school graduates. Amer. Sociol. Rev. 19: 314-324, June 1954.

Pihlblad and Gregory concluded that two-thirds of seniors in Missouri high schools in 1939-40, migrated in 12 years in about the same proportion for both sexes. No difference occurs between social and economic areas of the state. Females had higher intelligence test scores than males except in the Eastern Ozark area, and test scores consistently tend to increase with size of community and distance of migration.

33. MARTINSON, F.M. Personal adjustment and rural-urban migration. Rural Sociol. 20: 102-110, March 1955.

Martinson studied rural Minnesota high school graduates to determine the relationship of personality inventory, Kuder preference test, high school grades, and extracurricular participation to migration. Paired data for farm and nonfarm migrants and nonmigrants were compared for girls and boys 2 to 5 years after graduation.

Migrant girls were socially more aggressive than nonmigrant girls and took part in more extracurricular activities than nonmigrant farm girls. Nonmigrant farm girls with high clerical interest apparently could find employment in the nearby area.

Adjustment and interests seem to affect the decision of boys to migrate. Migrant nonfarm boys took part in significantly more activities in high school, had greater freedom from nervous symptoms, better emotional adjustment, higher computational and scientific interest scores, and better academic records than those who remained in the community. Nonmigrant nonfarm boys had higher mechanical interest scores.

Farm boy's decisions to migrate seem to be related to adjustment and interests. Nonmigrants had more favorable emotional adjustment scores, better family relationships, better community relationships, and high mechanical interests. Migrants had higher grades, greater extracurricular participation, and literary interests.

There seems to be better home and community adjustment by nonmigrants. Migrants were more aggressive socially, had greater scientific interests, and were better adjusted to high school, a symbol of what the world outside the local community had to offer--academic, scientific, and literary pursuits.

34. LIPSET, S.M. Social mobility and urbanization. Rural Sociol. 20: 220-8, June 1955.

Lipset used secondary data of the mobility study of the Oakland area to test the relationship between geographic and occupational mobility. A major portion of workers started working outside the San Francisco Bay area. Workers with farm backgrounds are most likely to be manual workers.

A larger percentage of workers with rural nonfarm, small town, and small city backgrounds were in nonmanual occupations. An even larger proportion of those from cities of over 250,000 were in nonmanual occupations. There was greater tendency of sons of fathers in metropolitan areas to move into nonmanual occupations. Thus, in larger communities, there seems to be better upward occupational mobility. This is similar to results of German and Swedish studies.

One explanation is that large communities offer better educational opportunities, and the potential rewards of education are more visible. A greater variety of positions is available in larger centers, hence there is a greater chance for occupational mobility. Since cities have grown, here is where the new opportunities are found. In addition, better trained staffs in city high schools are likely to encourage students to attend college. City teachers are also more likely to be aware of occupational possibilities than those in a more homogeneous occupational community. Lower status individuals are less likely to appreciate the value of higher education or recommend high status jobs as objectives for youth.

35. FREEDMAN, R., and FREEDMAN, D. Farm reared elements in nonfarm population. Rural Sociol. 21: 50-61, March 1956.

Freedman and Freedman studied data from the survey of population before the 1952 election. Farm-reared people not on farms were in lower status social and occupational positions than those with nonfarm backgrounds, were less active politically, and had a lower level of activity in voluntary organizations, (a function of economic status). Farm-reared protestants attended church more frequently than nonfarm-reared persons. This is largely a function of lower economic status.

36. PIHLBLAD, C. T., and GREGORY, C. L. Occupational mobility in small communities in Missouri. Rural Sociol. 22: 40-49, March 1957.

Pihlblad and Gregory analyzed high school graduates of 116 small communities in Missouri 10 to 12 years after graduation. Their attention was focused on the type of occupation in relation to the father's occupation. From one-third to one-half of the sons of professional, sales, skilled, and farm workers were in the same occupation. Daughters followed fathers' occupations only in professions and teaching.

Generally, if the son or daughter did not follow the father's occupation the tendency was to follow an occupation of higher status. However, over two-thirds of sons of farmers were in farming or manual jobs, and few were in professional occupations; a smaller proportion of this group than of those with other backgrounds were in military service.

While there is some tendency to follow the father's occupation, there is a high degree of fluidity and upward mobility from lower status occupations. There is no insurmountable barrier for individuals born in farming or manual-labor homes to attain higher occupational levels. However, the limits of achievement must be kept clearly in mind.

37. BOWLES, G. K. Migration patterns of the rural-farm population, thirteen economic regions of the U. S., 1940-1950. Rural Socio. 22: 1-11, March 1957.

Bowles summarized migration from farms in the U. S. from 1920 to 1950. Rates of net migration varied with economic activity and off-farm jobs. Rates of migration were highest for those just entering the labor force. In 1940-50 nonwhite migration rates were higher than for whites. Young people moved because (1) They search for jobs and have no job attachments, (2) they are at a breaking point in educational advancement, (3) have few family responsibilities, (4) have no strong attachment for home or community, and (5) often seek new experiences in other areas. Family groups have low rates of migration because of (1) Less freedom of movement with children, (2) job attachments, and (3) strong community and family attachments. Older people often are occupationally mobile because of (1) Death of spouse, (2) financial ability to leave the farm, and (3) custom of moving to town.

Five generalized areas of migration were delineated. First, areas such as the west coast, eastern Lake States, and the Northeast had net in-migration of the same age groups. All other areas had net migration out of farming for all ages. The remainder of the Corn Belt, Lake States, and Middle Atlantic states had low rates of family out-migration. Highest rates of migration for all groups were in Atlantic Flatwoods, Gulf Coast, South Central, and Southwest Plains regions.

Rates of family group migration were low in areas of productive farming and higher in areas of low income and production. Migration of young adults was highest in areas of high fertility and high labor force replacement.

38. HALLER, A. O. Research problems on the occupational achievement levels of farm reared people. *Rural Sociol.* 23: 355-362, Dec. 1958.

Haller reexamined Lipset's hypotheses that occupational and educational aspiration account for occupation achievement for Lenawee County, Michigan. Occupational achievement is correlated with educational and occupational aspiration. However, farm-nonfarm differences in educational aspiration are not large enough to explain much of the variation in occupational achievement. Also, plans to farm do not explain all the apparent relationship of farm residence to occupational aspiration.

He concluded that the factors influencing occupational aspiration were more complex than the hypotheses suggest. Association of occupational aspiration and plans to farm is not due to the farm youth's recognition of the role of advanced education in high-level occupational achievement. More research on personality and social situation factors is needed to explain why plans to farm depress occupational aspiration. This may, in turn, explain the poor performance of farm people in the labor market.

39. BRACEY, H.E. Some aspects of rural depopulation in the United Kingdom, *Rural Sociol.* 23: 385-391, Dec. 1958.

Bracey described some results of constant emigration of rural people to city areas in the United Kingdom. Many villages have seen the decline or disappearance of crafts, lack of alternative employment, shortage of utility services and shops, little corporate social activity, little interest in adult education, little regard to local government, excess numbers of aged, small agricultural holdings with poor husbandry, hostility to areas outside the village, and strained employer-employee relationships. He concludes that the high proportion of paid workers makes for great mobility because of greater freedom of movement and little chance for advancement. In the Midlands and Southeast mobility is dependent on opportunities as people commute greater distances with the development of metropolitan urbanism.

40. METZLER, W. H. Socioeconomic aspects of manpower adjustments: low-income rural areas. *Rural Sociol.* 24: 226-235, Sept. 1959.

Metzler developed the hypothesis that in low income areas subsistence-level farm and rural families do not have the desire to have high incomes, and so are left behind by technological advances. Ordinary educational methods do not help them in improving incomes, since their income needs are small. These low levels of aspirations carry over into those who migrate as well. The opportunities to shift into commercial farming are very limited. As the techniques improve in farming, a greater shift out of agriculture even in subsistence areas becomes necessary. Local nonfarm work opportunities are increasing, but the major shift is to employment in large cities. The habits and values of these people are a strong handicap in their adjustment to the responsibilities of urban life. The author concludes that it is not enough to teach them the skills needed to work in the occupations of urban life, it is also necessary to teach them how to be responsible citizens in such a community as well.

41. FLIEGEL, F. C. Aspirations of low-income farmers and their performance and potential for change. *Rural Sociol.* 24: 205-214, Sept. 1959.

Fliegel examined relationship between level of aspiration and income of farmers in a low-income area of Pennsylvania. He found that economic aspirations tend to be oriented away from the farm to other sources of family income. There was no relation between aspirations and levels of farm, operator, or family income. Neither was there any relationship between level of living and aspirations. This suggests that programs intended to assist low-income farmers desiring to remain in agriculture may need to be built around other than economic goals.

42. SCHWARZWELLER, H. K. Value orientations in educational and occupational choices. *Rural Sociol.* 24: 246-256, Sept. 1959.

Schwarzweiler concluded that value orientations play an influential part in choosing a career. While some variation exists, young people in four rural area high schools in New York gave expression to personal values in planning future occupations. When there is relative freedom of opportunity to choose among concrete alternatives such as planning to go to college or planning a college course, values are important. When freedom of opportunity is restricted by social structure and reality, values become less important.

43. OLSON, PHILIP G. Job mobility and migration in a high income rural community. *Purdue Agr. Expt. Sta. Bul.* 708, 1960.

Olson analyzed the factors affecting job mobility and migration in a high-income community. He developed a model in which socioeconomic factors such as age, education, and income were generators of motives or impediments to job mobility, migration, or both. He attempted to bring together the sociological and economic concepts in the formulation of his hypotheses.



He found that mobile persons are likely to be younger, have lower incomes, and a lower social status. Motivation to change jobs varied among mobile individuals. Low-income individuals are motivated by economic betterment. Younger and lower status persons are motivated by a desire to improve social status. Migrants tend to be younger, have lower incomes, have more education, and have middle social status. Job mobility and migration are highest among the young who are college educated.

Job mobility is motivated by desire for economic improvement, migration by desire for economic improvement; persons who are both job mobile and migrant desire both economic and social improvement. Voluntary mobility of farmers was typically into occupations using capital and managerial skills. Involuntary movement of farmers was into semi-skilled and unskilled jobs. Those who moved voluntarily were younger, better educated, and had higher social status than those involuntarily moved.

44. GESCHWIND, R.D., and RUTTAN, V.W. Job mobility and migration in a low income rural community. Purdue Agr. Expt. Sta. Bul. 730, 1961.

Geschwind and Ruttan compared migration in a low-income and a high-income community. Younger, better educated people migrated from the community and had a high social status but either a high or low income. Job mobility was not dependent on age, income, or education, but mobile people have a low social status. Improved knowledge was characteristic of job-mobile persons. Capital investment reduced mobility. Professional and skilled persons migrated into Shoals, but those migrating out were in other groups. Those with supplementary incomes had high incomes in Shoals. Movement from farming generally resulted in a declining status. On this basis, they conclude that successful mobility of farm population depends on possession of educational or occupational skills to go to larger urban industrial centers. It also emphasizes the need for orienting vocational training to regional and national rather than local markets.

45. BROWN, C.H., and BUCK, R.C. Factors associated with the migrant status of young adult males from rural Pennsylvania. Pa. Agr. Expt. Sta. Bul. 676, 1961.

Brown and Buck studied migration of Pennsylvania rural young people who were sophomores in high school in 1947 to determine their residence and occupation in 1957. Findings did not agree with several previous studies. No difference was found in intelligence scores of migrants and nonmigrants. No difference was observed in personality adjustment scores, and no association with prestige ratings of parents' occupation were discovered. Amount of education was not associated with migration. Likewise prestige ratings of present occupation were not associated with migration. Type of occupation was related only to respondents with farm backgrounds. Those in farming more frequently remained in parental homes.

The unusual lack of agreement prevailing between findings of this study and previous research is explained by the highly urban and industrialized nature of the State. Many young persons living in rural areas could work in urban centers without migrating. Thus, job mobility had not been fully studied, since emphasis was placed on geographical mobility.

46. WAKELEY, R. E., and NASRAT, M. E. Sociological analysis of population migration, *Rural Sociol.* 26: 15-23, March 1961.

Wakeley and Nasrat used secondary data to determine social relationship with population migration. Net rural migration was used as a measure of cohesion, the degree to which individuals accept roles prescribed by the social system. The degree to which expectations exceed achievement is defined as deprivation. A coefficient of deprivation was computed as the ratio of 1947 to 1939 per capita income in an area. A coefficient of comparative rewards was developed to measure deprivation of a county in relation to the State. The coefficient of variation was the degree of change in farm family level of living index for all periods 1930-50.

The greater the variation in level of living, the greater was net migration. Higher per capita income from 1939 to 1947 significantly reduced migration. As comparative rewards of a county increased, migration declined. With multiple correlation analysis, the regression equation did not fit rural migration for the five metropolitan counties. The pattern was erratic, as two counties had higher and three lower migration than the equation indicated. Only about 37 percent of the variation in migration was explained in urban counties and those with cities of 5,000 to 25,000 population. Only 23 percent was explained in rural counties.

Use of county data, limits of social analysis, restriction to cohesion as a measure of cause of migration, lack of role clarity, and limits of measures reduce conclusions and limit the usefulness of the model as a predictive device.

47. GOLDSMITH, H., and BEEGLE, J.A. The initial phase of voluntary migration. *Rural Sociological Studies No. 1.* Mich. Agr. Expt. Sta., mimeo. 1962.

Goldsmith and Beegle reported on a study of juniors and seniors in high schools in Ontonagon County, Michigan, in 1957. The study was designed to explain the initial phase of migration. It was found that desire to migrate increased with decreased satisfaction with the community. The desire to migrate was also directly related to the level of specification (desires) expressed. Consideration to migrate increased as the perceived desirability of migration increased. While independent of the level of individual desires, consideration of migration increased as community satisfactions declined. Also, consideration of migration was directly related to the level of desires of the individual. There was a direct relationship between the desire to migrate and consideration to

migrate. Obligations play an important role in consideration of migration, but are not more important than factors associated with relative attractiveness of situations. The expectation to migrate depends on the support of parents in migrating, other support available, and the strength of relationship to parents. The authors suggest ways in which further studies may be improved using their framework.

48. NIX, H.L. Opportunities for and limitations of social and economic adjustments in an Alabama rural county. Ala. Agr. Expt. Sta. Bul. 338, Jan. 1962.

Nix studied 171 households in Fayette County, Alabama, and found that occupational achievements, aspirations, and obstacles to aspirations and satisfactions were similar to those found in other studies. Levels of income were low, with many heads of family indicating that they would change residence and job if they could find a steady job with better income. There was little community participation among those interviewed, thus this factor represented no serious obstacle. Conditions most likely to prevent acceptance of jobs with higher pay were connected with the nature of work and its relation to the worker and his family.

There was widespread dissatisfaction with level of living and level of income. Many individuals expressed feelings of despair and uncertainty. Apathy by such people makes education programs less effective, as participation is low.

Adjustments can be made through migration, occupational mobility, homemaker's employment, residential mobility, and educational mobility. It was concluded that those studied were not making use of the two basic channels of upward socioeconomic mobility--educational advancement and social participation. This appears to result from rapid changes and lack of access to means of achieving aspirations. No suggestion is made as to how to break into the circle to improve socioeconomic mobility.

#### Testing and Training of Workers

49. MOTLEY, A.W. Recent trends in the test selection of apprentices. Monthly Labor Rev. 76: 1068-1070, Oct. 1953.

Motley indicated that when occupation selection was by family tradition, up to 50 percent of apprentices failed to complete training. By using the General Aptitude Test Battery, 10 basic abilities can be measured. These are related to 20 fields of work and 2,000 occupations and help the candidate decide on the type of training suitable for him. Specific aptitude tests can tell of an individual's chances for success in a single field, but not to a specific occupation. Testing sessions of  $2\frac{1}{2}$  hours permit consideration of all 20 apprentice occupations. Wisconsin experience indicates less turnover and better qualified apprentices. Most areas have local informal arrangements with employers, unions, and apprenticeship committees or joint councils.

50. SWERDLOFF, S., and BLUESTONE, A. The training of tool and die makers. Monthly Labor Rev. 76: 254-257, March 1953.

Swerdloff and Bluestone found that one-third of tool and die makers had not served apprenticeships. There were slight differences in age of apprenticed and nonapprenticed; younger workers had more apprentice training. Geographic and industry mobility of the two groups seemed to be similar. Apprenticed workers have a shorter training period and start earlier as a journeyman. More chances apparently are open to supervisory positions for those with apprentice training. Sources of trained workers in 1952 were not considered sufficient to meet needs.

51. U. S. BUREAU OF EMPLOYMENT SECURITY. Estimates of worker trait requirements for 4,000 jobs. U. S. Dept. Labor, 1956.

U. S. Bureau of Employment Security used 48 different characteristics under the general classifications of General Education Development, Scale of Vocational Preparation, Aptitudes, Temperaments, Interests, Physical Capacities, and Working Conditions for 4,000 major occupations as a guide to determine the manner in which individuals are likely to fit and succeed in those occupations based on test scores.

52. ROSEN, H. 1958. Technicians in the labor force of Russia and America. Monthly Labor Rev. 81: 1-5, Jan. 1958.

Rosen concluded that the ratio of professional workers to technicians was too high to make efficient use of our professional workers. Skills in the labor force must extend beyond manual skills to include technical knowledge. Informal acquisition is inadequate preparation for semi-professional workers. The vacuum is largely between high schools and colleges and is not being filled by industry or armed forces. The small number of technical schools cannot fill needs. Local communities may introduce technical institutes or junior colleges, and improved vocational guidance. To meet future needs, investment should be made soon to provide semiprofessional training.

53. PEARCE, C.A., and BERMAN, A.J. A survey of training needs for skilled metal trades workers. Monthly Labor Rev. 81: 868-871, Aug. 1958.

Pearce and Berman indicate that the general shortage of workers in the skilled metal trades will continue. Smaller plants with a smaller ratio of apprentices to skilled workers could help to meet training needs. Formal training is more concentrated, produces skilled workers more quickly, and produces more competent and versatile workers.

54. HALLER, A.O. Planning to farm: a social psychological interpretation. Social Forces 37: 263-268, March 1959.

Haller used several tests to predict boys who do not plan to farm. Seven of his ten hypotheses were accepted as statistically significant at 5 percent level: parents had high levels of educational and occupational aspirations, boys placed a low value on their community, had high educational and occupational aspirations, had less commitment to their occupational preference, and exhibited greater interest in external events.

55. YOUNG, E.G. Factors in educational attainment. Rural Sociol. 24: 21-28, March 1959.

Young studied 160 families in three rural development counties in Kentucky to determine the factors in the home, school, and community which influence educational attainment of rural youth, in addition to social stratification. Half of the low-social-status youths, one-seventh of the middle, and one-eighth of the high-social-status youths discontinued their formal education before graduating from high school. Parents and youths need to be influenced to adopt favorable attitudes concerning formal education. Many rural youths need to be relieved of some unpaid work and be given more part-time paid work during the school term. School personnel should assist low-status youths in finding an acceptable role in extracurricular activities. Teachers should deliberately encourage young people to stay in school. All of these factors should result in a larger percentage of rural young people completing a high school education.

56. PLUNKETT, M.L., and RICHES, N. School and early employment experience of youth--a report on seven communities, 1952-7. U. S. Dept. Labor Bul 1277, 1960.

Plunkett and Riches found a high dropout rate of high school students in seven areas. There was no pattern on intelligence level, although dropouts averaged lower than graduates. Adverse school experience was the primary cause given, though more complicated reasons probably existed. Dropouts had more underemployment, lower paying jobs, less skilled occupations, and took longer to find a job than graduates.

57. U. S. BUREAU OF LABOR STATISTICS. Occupational outlook handbook, employment information on major occupations for use in guidance. U. S. Dept. Labor Bul. 1300, 1961.

U. S. Bureau of Labor Statistics indicates a large need in 1960-70 period for clerical occupations. With a high turnover in stenographers, typists, secretaries, and bookkeepers, more personnel will be needed. As more automatic office equipment becomes available, higher skills will be needed in business machine operations. Construction trades have many opportunities in the next several years but require considerable training. Training can be enhanced by basic skills learned in vocational courses. Truck drivers, especially long-haul operators, are needed in increasing numbers. Much training is inservice training as an assistant driver. Sales occupations are increasing in total employment. This is the area with the largest potential increase in employment.

58. FOLKMAN, W.S. Rural problem areas need better schools. Agri. Econ. Res. 13: 122-129, Oct. 1961.

Folkman studied educational attainment of individuals over 25 years of age in rural-farm population. He found in low income areas a high proportion of persons had less than 8 years of schooling and only a small percentage had completed high school. Quality of education was probably low also. Teachers' salaries are below the national average. Schools are usually small, making a wide curriculum difficult to attain. The percentage of average daily attendance of students enrolled is also low. The teacher-pupil ratios are similar to those of the national average. However, expenditures per pupil in ADA are well below average in spite of low ADA per pupil enrolled. The most serious limitation is that States with low income use a smaller proportion of their wealth for education than richer States. These expenditures are considered as consumption expenses rather than investments.

#### Educational Attainment of Rural People

59. LANDIS, P.H. Educational selectivity of rural-urban migration and its bearing on wage and occupational adjustments. Rural Sociol. 11: 218-232, Sept. 1946.

Landis concluded from data collected in 1942 on students of classes graduating in 1934-41 in Washington that rural youth migrating to urban areas are far better educated than rural youth remaining behind, but less well educated than urban youth with whom they compete for jobs. Urban youth moving to rural areas are less well educated than urban youth who remain in cities, but are better educated than rural youth. Despite educational disadvantages, rural youth migrating to cities excel urban youth in incomes. Urban youth who move to rural areas have better incomes than rural youth who remain in rural areas. Urban girls who move to rural areas are especially successful in having better incomes. Rural youth moving to cities do not achieve high-status occupations comparable to urban young people who remain urban. Yet they achieve higher occupational and economic status than rural people remaining behind. Urban people moving to rural areas rate high in economic and occupational success.

60. SMITH, M. B. Comparison of educational attainment of Louisiana rural and urban populations. Rural Sociol. 12: 27-40, March 1947.

Smith studied the educational attainment of rural and urban populations in Louisiana. He concluded that the educational level of the adult urban population in terms of school advancement is higher than for rural adults. A larger proportion of the rural population of school age was not enrolled in school than was true for the urban population. Rural children enter school at a more advanced age and leave school at a younger age than urban children. Urban children succeed in school better than rural children. There is more retardation in rural than in urban schools.

The nonwhite is uniformly below the educational level of the white population of the same age, sex, and residential group. The urban nonwhite adults have an average higher educational level than rural farm white adults.

Success of pupils in school may be an indication of the value the adult members of families and communities place on the school progress of their children quite as much as the interest and ability of the students themselves.

The school progress of the students may also indicate the quality of school work and the character of the organization of the schools. If the school program is unrelated to the life of the population or if it is removed from the interests of the community, it is expected that children attending such artificial and unresponsive institutions would find little to inspire them to the academic efforts required to pass the various levels of school work at the expected rate.

61. MARSHALL, D.C. The education of Minnesota farm youth. Rural Sociol. 15: 65, March 1952.

Marshall reported that while Minnesota ranked ninth in the percentage of white urban children attending school, it ranked 40th in the percentage of farm youth attending. Eight factors were used to explain the attendance rates of farm boys. Only four variables explained more than 5 percent of the variation in attendance rates: Cultural Characteristics, Labor Force Requirements Per Farm, Value of Farm Products Per Farm, and Availability of School Bus Transportation. In preliminary results of a further survey, the author concluded that there were serious doubts that the small town high school was adequately serving the overall interests of the community.

62. MARSHALL, D.G., SEWELL, W.H., and HALLER, A.O. Factors associated with high school attendance of Wisconsin farm youth. Rural Sociol. 18: 257-260, Sept. 1953.

Marshall, Sewell, and Haller studied census data by county to explain wide variation of from 35.8 to 74.3 percent high school attendance of farm youth in Wisconsin in 1940. While 51.5 percent of farm youth attended, 91 percent of urban youth 16-17 years of age attended school.

Multiple regression analysis indicated that number of milk cows per farm, nationality background, public transportation costs per pupil, enrollment in high schools with less than 100 pupils, and enrollment in elementary parochial schools explained 48 percent of differences in attendance among counties. Nationality background was the most important, since children of German, Polish, Belgian, and Swiss backgrounds did not generally attend high school. More milk cows reduced attendance. Small schools made attendance more likely. Higher transportation costs increased enrollment, while greater percentages of students in parochial schools reduced high school attendance. There are other factors not used that account for a considerable portion of variation in attendance.

63. SEWELL, W.H., MARSHALL, D.G., et al. Factors associated with attitude toward high school education in rural Wisconsin. Rural Sociol. 18: 359-365, Dec. 1953.

Sewell and associates interviewed 400 adults in open country areas of Wisconsin to determine attitudes toward the desirability of a high school education. Characteristics of the respondents that were correlated with a favorable attitude toward a high school education were attendance at high school, Anglo-American ethnic background, farm residence and white collar job, high socioeconomic status score, large farm, under 40 years of age, and female. Number of milk cows, distance to high school, and tenure status were not correlated with attitude toward high school.

While socioeconomic status, ethnic background, and educational attainment are significantly associated with attitude toward high school education within at least one of the four areas studied, they are not significantly associated in all areas.

Ethnic background is associated with attitude toward education only among those who have high social status but have not attended high school.

64. HALLER, A.O. The influence of planning to enter farming on plans to attend college. Rural Sociol. 22: 137-141, June 1957.

Haller studied 565 Wisconsin farm boys who were high school seniors to determine plans to farm and to attend college. It was found that there was a significant association between plans to farm and to attend college. Only 18 percent of those who planned to farm planned to attend college, while 43 percent of those who did not plan to farm planned to attend college.

When IQ tests were used to compare plans to farm and attend college, in the one-third group with high IQ, 63 percent of those not planning to farm planned to attend college while only 26 percent of those planning to farm also planned to attend college. For those with an IQ between 64 and 104, 22 percent of those not planning to farm planned to go to college while only 15 percent planned to do both.

Some of the boys who planned to farm without going to college may not enter farming after all. It was suggested that these unfulfilled plans may be responsible for the low levels of achievement by farm-reared people in the nonfarm labor market.

65. HEADY, E.O. Adaptation of extension education and auxiliary aids to the basic problem of agriculture. Jour. Farm Econ. 39: 112-127, Feb. 1957.

Heady reviewed emphasis on improved production as a way of raising farm incomes. He studied the implications of various goals and means of reaching goals. A monopoly would be required to reduce output and to increase total income to farmers. To maximize welfare of farm people



requires a combination of capital and education for low-income farmers. The goal of national economic growth could be fostered through several activities. Education to increase mobility would be an excellent means of meeting the objectives. Vocational agriculture should not attempt to make every farm boy a better farmer, but should emphasize producing goods and services in greatest demand in society. Guidance is needed to direct the one in five boys needed in agriculture and to help the remainder to achieve skills to leave. The 4-H program to improve farming skills may have little return. The individual as a consumer as well as a producer needs to be stressed. Adult classes are needed to promote skills outside of agriculture. This will improve incomes of those remaining. Old Age and Survivors Insurance can aid in shifting older farmers out of farming. Unemployment compensation and transportation subsidies can improve mobility out of agriculture. Better employment services can aid the flow of knowledge of nonfarm job opportunities, but assistance in adjusting to receiving community would also help.

66. LONG, D. Summary report on high school leavers in Vanderburgh County, Indiana, 1953-1956. U. S. Dept. Labor, Bur. Labor Statis. mimeo, 1958.

Long studied the experience of students who dropped out of high school. Many causes of dropout were cited, but adverse school experience was the primary cause given. Complex causes over a period of years may have built up. Dropout rates were highest in schools with low socio-economic status of the families in the area. Those who had little schooling do not urge patterns of behavior on their children likely to result in a high school education. Similarly, parents who went to college tend to encourage their children to go to college. School curricula are not well adapted to people with tendencies to drop out of school. Need for more vocational training was stressed. Employment is harder for dropouts to find than graduates, and unemployment periods are longer. The social mobility of segments of the industrial population makes job counseling more important, but more difficult. The dropout rate has been decreasing, but this may be due to higher living standards and more apparent benefits of education.

67. MIDDLETON, R. and GRIGG, C.M. Rural-urban differences in aspirations. Rural Sociol. 24: 347-354, Dec. 1959.

Middleton and Grigg studied educational and occupational aspirations of high school seniors in Florida. They found a significantly higher percentage urban youth than rural youth aspiring to white-collar occupations. However, only white urban males appeared to have significantly higher aspirations than rural counterparts, though the percentage for the urban group is consistently as high as or higher than for the rural group. All intelligence levels of white urban males have greater aspirations for white collar jobs than rural males but only the low intelligence group was significantly higher. Significantly more urban students planned to go to college, but only white males and females in urban areas had a significantly higher percentage with college plans.

Urban males had significantly higher percentages of all intelligence levels planning to attend college while significantly more urban white females in the low intelligence range planned to attend college.

It was suggested that among Negro groups there is a high degree of selection for those who complete high school. This group may have uniformly high occupational and educational aspirations regardless of place of residence.

The lack of residential difference in white females seeking white collar jobs is apparently related to the social stigma attached to manual occupations for females. While not significant, considerable differences in educational aspiration among white females still exists.

68. WILSON, P.B., and BUCK, R.C. The educational ladder. Rural Sociol. 25: 404-13, Dec. 1960.

Wilson and Buck reported the study of sophomores in 74 Pennsylvania high schools to determine the personal-social characteristics of rural youth that are associated with continued educational achievement. There was little difference in the backgrounds of those that went to college and those attending vocational schools after graduating from high school. Those completing high school, but not receiving additional training, had average intelligence levels and personality adjustment. Academic interests centered in liberal arts, and hobbies centered in the arts. They participated less in organizations than those receiving further training. Occupational aspirations were slightly toward white-collar employment but were less intense than for those seeking further training.

Dropouts were likely to be youngest of a large family. Fathers were likely to be in blue-collar working class, and least likely to have positions of prestige in the community. Students possessed lowest average I.Q. scores and lowest personality adjustment scores. They preferred liberal arts subjects, but hobby interests were in athletics. They read fewer books, tending toward fiction; they belonged to fewer organizations and held few leadership positions.

The authors suggest further research to determine why rural young people who possess most of the characteristics associated with educational achievement do not continue education.

69. BURCHINAL, L.G. Differences in educational and occupational aspirations of farm, small-town and city boys. Rural Sociol. 26: 107-121, June 1961.

Burchinal compared educational aspirations of 10th and 12th grade boys from farms, rural nonfarm areas, small towns, and cities. He found that urban, small-town, rural nonfarm, and farm boys had occupational aspirations in descending order as measured by prestige or plans to attend college. There was an even lower aspiration among those who planned to farm. Parental involvement in son's occupational plans was lowest for farm boys and followed the same order. Mothers were more involved in occupational plans than fathers. Parental expectations regarding educational aspirations show the same rank order with farm boys receiving the least encouragement and most discouragement. In fact, 12th grade boys received less encouragement and more discouragement from farm parents than 10th grade boys.

70. DAVIS, R.C. Here's how farm kids find careers. Farm Jour., p. 32, Nov. 1961.

Davis reports that the cooperative education programs in trades and industry, distributive trades, and commercial work in high schools in Burlingame and Lawrence, Kansas, have resulted in immediate employment for nearly all after graduation. Employers outside the area have taken many of the students from Burlingame. In Lawrence 85 percent of the trainees went to work for their cooperative employer, after graduation.

71. BURCHINAL, L.G., HALLER, A.O., and TAVES, M. Career choice of rural youth in a changing society, a summary of research. Report of Sub-committee on Family and Youth of the North Central Rural Sociology Committee, 1962.

Burchinal, Haller, and Taves summarized problems of selection of occupations by rural youth. They accept free occupational choice as important, but recognize that good information is needed to properly use manpower skills. The risks of improper selection of occupation are enlarged by reduced farming opportunities, composition of the labor force toward high skills, and the selection of an occupation by an individual.

They conclude that the majority of rural youth must move from home and community to urban areas to pursue adult careers. A wide disparity exists between occupational preference level and opportunities available. Rural youth are at a disadvantage in an urban labor market when they compete with urban youth. Farm boys who plan to farm need all the training and experience they can obtain. Occupational choices are related to the total social and psychological development of an individual. Rural youth from lower socioeconomic status families face special problems in decision making.

They suggest that local communities assume responsibility for a comprehensive diversified high school education. Special programs must be developed to meet long-term needs of rural youth. Preparation for occupations must be based on reasonable access to knowledge about jobs. Rural youths must be educated for mobility, too. Vocational information and counseling programs should be oriented to parents as well as youth. Rural people can supplement programs designed to aid youth in making intelligent choices.

#### Adjustments in the Labor Force

72. KANNINEN, T.P. Sources of labor supply in west coast shipyards and aircraft parts plants, Monthly Labor Rev. 55: 926-931, Nov. 1942.

Kanninen reported the employment of workers in west coast shipyards and aircraft parts plants. Over half of the workers came from the same city and two thirds from the same State. Workers from agriculture were primarily in laborer or helper positions. The total of agricultural workers was only 3 percent of total. The median age of new workers was 30.

73. MYERS, C.A., and SHULTZ, G.P. The dynamics of a labor market. Prentice-Hall, New York, 1951.

Myers and Shultz studied the effect of the textile mill closedown in Manchester, New Hampshire, in 1948. Younger workers left jobs voluntarily after the announced shutdown. While short-service workers quit, many skilled long-service employees sought jobs in nearby cities. Nearly one-third of the quitting group lived in other cities, twice the proportion of those laid off. Job experience had no effect on quitting. Eighty-six percent of quitters found jobs, often less skilled and lower paying. Few workers were able to better themselves. Forty percent of laid-off workers liked former jobs and preferred them. Most workers rehired had little job information except from relatives or friends. A few made random plant applications. Two-thirds applied to State employment service which provided 3 percent and advertisement only 5 percent of jobs. Similar results applied to first job held and mill job. Most workers knew very little about the new job, although many had worked in the plant previously. Most people applied for only one job, while unemployed persons applied for none. Only half expressed willingness to take a job outside of the city. Family, commuting, and age were reasons given for not taking a job out of city. Employment service role should be to: (a) Supplement other sources of labor supply, (b) provide recruitment and screening service to firms without this service, and (c) to check on willingness of unemployed workers to take suitable work instead of benefits.

74. MCCA HILL, W.P. Development of work opportunity for the handicapped. Monthly Labor Rev. 74: 640-642, June 1952.

McCahill reported that the Bureau of Employment Security had placed 2.4 million handicapped workers in nonagricultural work from 1940-52. In fiscal year 1952, 220,000 placements were made. Disease accounts for 88 percent of all disabilities, and increases with age of workers.

75. STEWART, C.D. Social implications of technological progress. Monthly Labor Rev. 79: 1415-1418, Dec. 1956.

Stewart stated that technological progress should permit freedom of older workers to choose to work or not work. The depression-oriented policy of forcing older workers out of the labor market seems to be relaxing. Public policy should give more attention to training workers through apprenticeship or public schools. Retraining may be needed to adapt labor supply to the demand. Automatic technology promises to relieve workers of dangerous, dirty, and heavy jobs thus reducing need for protective legislation.

76. RODERICKS, F.J. Advance planning for plant relocation, Monthly Labor Rev. 81: 376, April 1958.

Rodericks states that the quality of labor supply is directly related to the percentage of high school graduates. With adequate planning, the effect of plant relocation on present workers can be reduced.

77. DEAN, R.D. The effects of automation on skill requirements: seven case studies. Unpublished Ph.D. Thesis, Purdue Univ. 1959.

Dean compared nonautomated factory operations with similar functions under automation. He found many skills under both conditions were nearly the same. Variation between jobs makes generalization difficult. Some of the jobs under automation required more skill, other less. There seems to be a tendency to increase the need for intellectual skills of reasoning, mathematics, and reading, as well as visual skill, while reducing the muscular skills involving both average and maximum weight.

These conclusions are based on limited case studies. No conclusion can be drawn about adequacy of skills of present workers. Neither could the author provide evidence of a change in working force caused by automation. The effect on maximum composite skills was studied.

78. MANN, F.C., and HOFFMAN, L.R. Automation and the worker, a study of social change in power plants. Holt, 1960.

Mann and Hoffman reported on changes and differences of workers' attitudes and reactions in two power plants in a system. One was a relatively new plant with an old production system, and the other was a nearly automated plant of the same capacity. Men in the older plant were keenly aware of the coming obsolescence of present skills. The company made an effort to select and to train workers before transferring them to the new plant. The process was partially successful, since workers received limited practical application, but the attitudes of workers were affected. Individuals were nervous in their work when jobs were broadened and required greater skills and knowledge. There was less manual work, but a wider range of problems. Although preventive maintenance was emphasized, a centralized maintenance system for breakdowns was necessary. There was dissatisfaction with the system.

Automation is likely to create more shift positions and shift work. The physiological and psychological implications of the shift work are not always apparent. Solutions are not planned but grow up on a historical basis. Changes in job interest and job satisfaction are not correlated, but increased responsibility, greater training requirements, more time in skilled work, less time in dirty work, and learning more on the job improved job interest. Job satisfactions were increased when more training was required, more time was spent in skilled work, and more was learned on the job, but correlations were lower than with job interest.

The correlation between job interest and liking the job was only 0.45-- the feeling that skills are being used is important for creating a satisfactory job. During the on-the-job training period to operate the new plant, men were put with other workers in older plants. Unfortunately, the "watch but do not touch" system was often used by the assigned workers who were jealous of their equipment, limiting the possibilities of on-the-job training more than necessary.

It is necessary to tailor plants, jobs, and leadership simultaneously, rather than fit men to the machines. Men were not happy with small routine tasks indicating the need for wider training and closer cooperation with management as well as better communication with workers.

79. BERTRAND, A.L., and OSBORNE, H.W. Rural industrialization: a situational analysis. Rural Sociol. 25: 387-393, Dec. 1960.

Bertrand and Osborne reported results of a study of a rural area in which a box plant was opened. They found that industrialization had an economic impact on the community by raising incomes and level of living of the workers in the plant. There was also a smaller increase in level of living of others not working in the plant. The plant had little effect on the social participation in the community. Schools had been improved somewhat in response to the plant, but churches showed little change. It was concluded that some adjustments had already been made before the plant was located in the town because people were equipped with predefinitions for meeting the situation. Judgments on the impact of industrialization on a rural community can be made only after it has been determined if the industry represents a new situation.

80. SOMERS, G.G. Labor supply and mobility in a newly industrialized area. U. S. Dept. Labor. Bul. 1261, 1960.

Somers studied the hiring experience of the new Ravenswood, W. Va., Kaiser Plant and the background of employees whose applications were accepted and not accepted. Preference was given to persons with experience in aluminum industry from 25 to 35 years of age, within 30 minutes of the plant, and with a high school education. Physically handicapped and those with pending military service were less preferred. Generally, age and educational criteria were adhered to, but it was necessary to hire over a wider area than initially planned. Mobility was high between industries because few aluminum workers resided in the area. Mobility between some skills was high, but not for professional, clerical, and highly skilled workers. Geographic mobility was also high; over one-half of employees traveled over 20 miles to work. Many of the hourly employees had been underemployed or unemployed in the 3-year period before being hired. Many employees moved to the plant to be closer to work. More hourly employees had area attachment than salaried employees. Most employees moved voluntarily. Before the plant was opened, most mobility in the area was geographic. Professional and managerial personnel must be transferred into an area. There was some increase in labor force, but movement of workers may reduce number of wives in working force. Many people now outside of area, but from area, are likely to move back.

81. WEINBERG, E. Adjustments to the introduction of office automation. U. S. Dept. Labor. Bul. 1276, 1960.

Weinberg tried to determine the effect of introducing electronic data processing equipment on the office force of 9.6 million employees. Since management requires the equipment to reduce clerical costs and time and to improve accuracy, new data can now be processed which previously were uneconomical to collect. Generally, job security for all workers was maintained. In the 4-year period 1953 to 1957 total office employment increased 7 percent in firms studied, compared with 15 percent for working force. Most new jobs were for programmers and computer operators. After change, those in processing had higher educational achievement than other employees.

Introduction of new processing system usually spanned 3 years to carry out administrative, technical, and personnel changes. In this period, the change could be made on a planned basis without disrupting the work force. One year after installation, one-third of the employees had been affected and reassigned, often to a new position in the same unit. One-sixth had quit, retired, died, or taken leave of absence. Only 9 of 2,800 employees were discharged. Eighty percent of those affected were in posting, checking and maintaining records, filing, computing, keypunch, or related machine operations. Two-thirds of workers were doing same work 1 year after the change. Close to one-third were promoted, but few over 45 had been promoted. Few were down-graded.

82. WILCOCK, R.C. Impact on workers and community of a plant shutdown in a depressed area. U. S. Dept. Labor Bul. 1264, 1960.

Wilcock studied the employment and experience of workers in Mt. Vernon, Illinois, following the closing of the Pressed Steel Car Company in 1954. In April 1950, 20 percent of employed persons were in manufacturing and 9 percent of the civilian labor force were unemployed. In 1956, unemployment was over 10 percent. Farmers depended on off-farm employment to supplement incomes. Two years after shutdown of the car shops, one-third of the 1,539 workers were underemployed or out of the labor force, one-third were employed outside of the area, and one-third were employed in the area. Older workers experienced more difficulty in finding employment than younger men, but had more experience in seeking employment than younger men. Unemployed, underemployed, and out-of-the-labor-force workers had less education than those who were employed in Mt. Vernon or had migrated out. Migrants had been in the community about as long as any group and home ownership was about the same for all groups. Agriculture and manufacturing were most frequent occupations of laid-off workers in 1956, totaling two-thirds of the workers. Only 11 percent worked in car shops in another area. Nearly half were in skilled, semi-skilled, or professional jobs. Forty percent were in unskilled jobs or agriculture. Wages of locally employed in 1956 were generally below those of car shop jobs. However, out-of-town workers and migrants had higher wages. Property ownership was a primary deterrent to moving from Mt. Vernon for employed workers, but "hometown", family, and friends deterred unemployed most frequently. Cost of moving also was a reason out-of-town workers remained in Mt. Vernon. Those who migrated could find no opportunity in the town and chose to keep the family together. Nearly half of workers found employment within 6 months, with migrants faring best. Length of unemployment increased with age and decreased with education.

83. NORTON, P.E. Job retraining, first areas to try it find it produced both problems and rewards. Wall Street Jour. 62: 87:1, Feb. 16, 1962.

Norton reports experience in Huntington, West Virginia, in conducting a retraining program for unemployed under the ARA retraining program. Generally, training was conducted for persons to fill jobs in the area, and not to move persons out of the area. An initial notice sent to 1,015 persons was answered by 640 taking aptitude tests. Only 240 qualified for training. In one program, the needs were quickly met and several trainees could not find jobs. No effort was made to move trainees out of the area. However, in Clarksburg, a new plant was established on the strength of the fact that the training program could train workers for the plant.

84. FEDERAL RESERVE BANK OF BOSTON. Retraining the unemployed, the New England experience. New England Business Rev., Aug. 1962. Experience of Connecticut and Massachusetts in retraining unemployed persons in a way similar to that envisioned by Federal Manpower Development and Training Act of 1962 was presented. Since 1956, Massachusetts permitted workers to receive up to 48 weeks unemployment compensation while they took approved training for which they paid tuition. Trainees found a slight increase in weekly wages, but with steadier work had a 50 percent increase in annual earnings. Ninety percent of those enrolled completed the course. Only 40 percent of those laid off would have taken a training course without compensation. Not all courses were satisfactory, but 93 percent of those who made an effort to find a job in the new skill found one. However, people were trained for jobs which were available; and when necessary sought jobs outside of their immediate area. The authors question if such a program can operate as successfully on a wide scale.

#### Problems of Older Workers

85. KOSSORIS, M.D. Absenteeism and injury experience of older workers. Monthly Labor Rev. 67: 16-19, Jul. 1948.

Kossoris reported that absenteeism among workers over 45 was average or below. Injury rate of workers over 50 was generally below average. Nondisabling injuries decline with age. The pattern of disabling injuries was bimodal with a peak for young workers and another for workers 40-45.

86. U. S. BUREAU OF LABOR STATISTICS. The Federal-State Conference on problems of the aging. Monthly Labor Rev. 79: 1052-1054, Sept. 1956.

The Bureau of Labor Statistics reported on the findings of the Federal State Conference of the Aging. Development and strengthening of State and local programs for older workers should include counseling and placement services, development of job opportunities, and provision of educational and rehabilitation facilities for those who need them. More research on capabilities and performance of older workers, and educational programs



to encourage employers to employ and retain older workers able and willing to work are needed. Pilot projects need to be initiated to coordinate use of resources and ways to obtain employer cooperation. States need to inventory and use special services for older people and experiment to provide part-time employment.

87. COHANY, H.P. Older workers under collective bargaining: hiring, retention, job termination. U. S. Dept. Labor Bul. 1199-1, 1956.

Cohany studied labor contracts with major groups covering 7,500,000 workers. Many contracts bar maximum hiring ages or age discrimination. Some require that a certain portion of workers hired be above a given age. For workers growing old in the job, seniority is the best protection. They may have special transfer rights to less taxing jobs, usually in connection with a medical exam and at some reduction in pay. Occasionally "personalized" rates of pay and new standards are established. Seniority is most important in layoffs and rehiring, but applies to transfers, promotion, choice of shift, and vacation period. Often seniority is modified by introducing skill, efficiency, and physical fitness to make the individual more competitive with his juniors. Widespread banning of discharge on basis of age alone is a basic protection of the older worker, but grievance procedures are available. Severance pay graduated by years of service also gives additional protection.

88. RINGE, H. H. Employment and economic status of older men and women. U. S. Dept. Labor Bul. 1213, 1956.

Ringe showed a high proportion of males over 65 employed as farm operators or farm managers. Other managers and proprietors accounted for one-seventh of workers over 55; those employed as craftsman, farm workers, or service workers were nearly one-fourth of all employed. Women over 65 were primarily employed as household workers. Over one-third of workers covered by Old Age and Survivors Insurance in 1953 were over 45. In a study in 1951, nearly half of the workers over 65 had been in the same job before 1940. Men had more time on the same job than women. Unemployment rates are highest for workers 14 to 24, lowest for those between 45 and 54, and increase thereafter.

89. SAKS, J.I. The older worker: status in the labor market. Monthly Labor Rev. 80: 15-21, Jan. 1957.

Saks found that hiring rates per 100 employees were low for workers 65 and over, but separation rates were lower than for workers under 45. Older workers had greater stability on the job, since workers over 65 voluntarily left their jobs only half as often as those under 45. Small firms tend to hire a larger proportion of workers over 45 than large firms; they hire nearly as many over as under 45.

90. STAHLER, A. The older worker: job problems and their solution. Monthly Labor Rev. 80: 22-28, Jan. 1957.

Stahler attempted to isolate employment problems among older workers. Many employers have maximum hiring ages as low as 35 or 45. Often a high school diploma or physical requirements not related to the job are specified. The older worker may lack training or face pessimism and lack of confidence by placement personnel. Finally, he does not have experience in seeking a job and selling himself to an employer. Employers, however, must adopt realistic practices. The worker must understand himself, his abilities, and limitation. Employment offices must be prepared to help the worker more effectively.

91. U. S. BUREAU OF LABOR STATISTICS, Comparative job performance by age: large plants in the men's footwear and household furniture industries, U. S. Dept. Labor Bul. 1223, 1957.

U. S. Bureau of Labor Statistics studied output data on 5,100 production workers of 26 establishments to determine effect of age on output. Attendance data were obtained on 9,400 workers and continuity of service data on 10,000 workers. Output per hour increases up to 35 and declines slowly to 65, then declines rapidly. Differences between age groups are generally small and within 8 percent of the base 35-44 age group. Output within each age group varies greatly, so substantial portions of workers in older groups perform better than the average of the younger groups. Thus, estimated individual performance cannot be judged on age alone. This conclusion held when workers are compared by type of operation and pay level; hand and machine operations; high versus lower paid positions. Differences in attendance rates are extremely small. Older workers have a better continuity of service record than younger workers.

92. ROWE, E.K. The older worker: insurance and pension plans, Monthly Labor Rev. 80: 29-36, Jan. 1957.

Rowe studied 300 insurance and pension plans covering 4,352,000 workers. While plans varied in benefits to older workers, they were generally beneficial to older workers who usually had same benefits as younger workers, although actuarial costs were higher. Older workers seeking a job and unable to qualify for retirement pay, may be unable to secure employment because of pension cost consideration, may not be able to participate in pension plan because of age, or may not work long enough to qualify for benefits. A pension plan may compel him to retire before he is economically or psychologically ready.

93. U. S. BUREAU OF LABOR STATISTICS. Comparative job performance by age: office workers. U. S. Dept. Labor Bul. 1273, 1960.

U. S. Bureau of Labor Statistics studied job performance of office workers since many employers refuse to hire workers over 45 "because they are less productive than younger workers". It was found that differences in output per man hour among age groups was insignificant. There was considerable variation within an age group among workers, so large numbers

of older workers exceeded the average performance of younger groups. Older workers had a steadier output from week to week than younger workers. Accuracy did not suffer with old age. When experience was equal, all age groups had similar rates of output. When workers were divided into smaller groups, age differences became very small. Even workers over 65 had high output, but this may have been the result of selection and the retirement plan in effect. In fact, the output of workers over 65 was above that of workers under 25 with over nine months experience. Personnel selection is better than age as an employment tool.

94. GORDON, M. S. The older worker and retirement policies. Monthly Labor Rev. 83: 577-585, June 1960.

Gordon reported a small proportion of elderly persons are unemployed because of involuntary retirement. Most firms with pension plans have compulsory retirement provisions, but some flexibility remains with many companies. Small firms without pension plans had no formal retirement policy. In older, larger firms with less rapid growth, long-service employees tend to have involuntary retirement. Unions have not modified policies substantially.

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