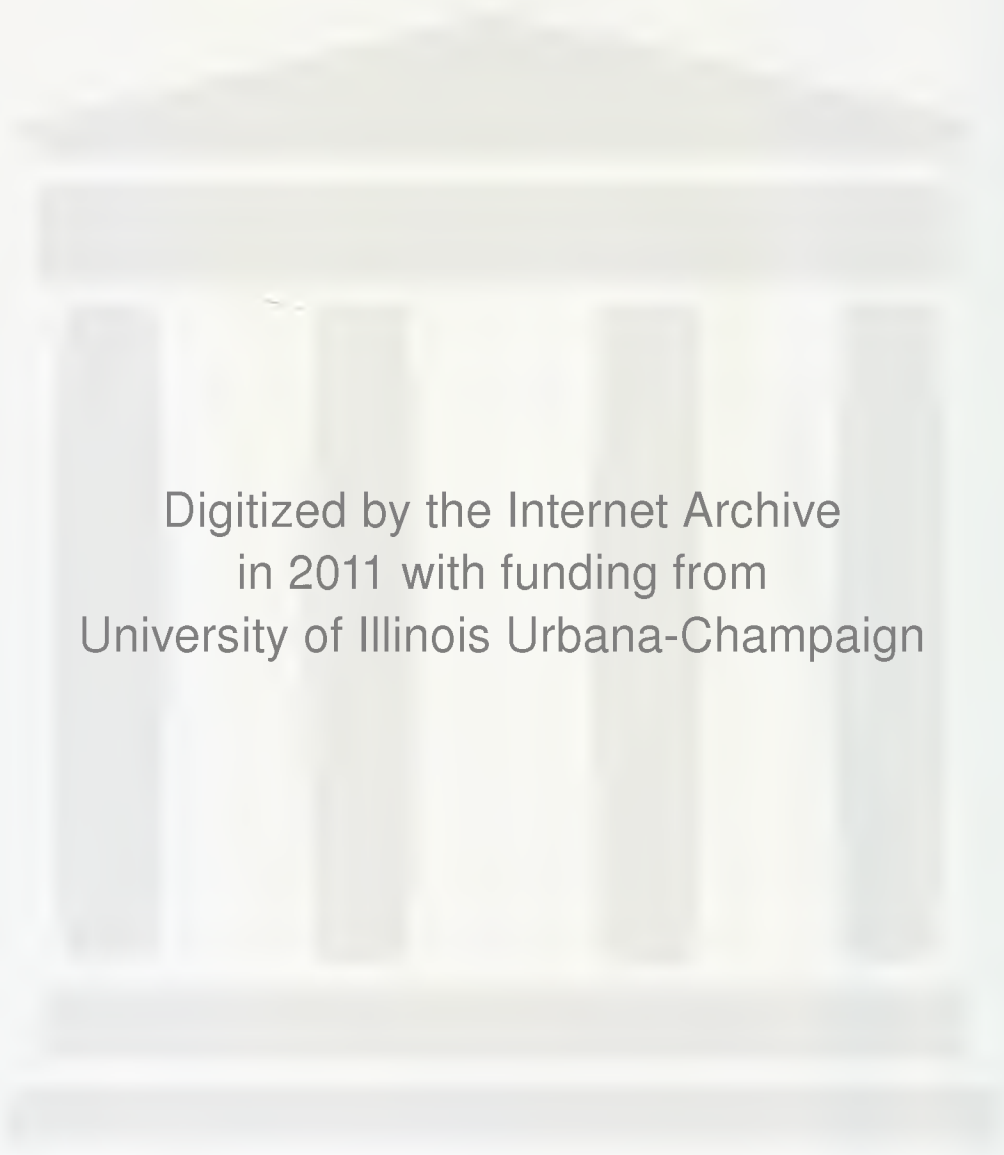

Faculty Working Papers

Urbanization and Declining Diets
The U.S. Story

John D. Parrish

University of Illinois

College of Commerce and Business Administration
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Introduction

U. S. diets declined in quality, 1955-1965. This paper is concerned with some of the socioeconomic factors that account for the decline. It will find that deterioration in diet quality accompanied a "new" phase of urbanization. It will suggest that improving nutritional levels in an ever more affluent society, may involve some new and very difficult problems which will likely challenge the very best innovative efforts of the medical and nutrition professions.

I. The High Expectations for Improved Nutrition, 1955-1965

Between 1900 and 1955 numerous private and public nutrition surveys of selected groups in the population had reported steady gains with the exception of the Great Depression years of the 1930's. (Appendix, Table 1.) The U. S. Department of Agriculture made four nationwide surveys beginning in 1936 and reported a generally favorable trend through 1955.[1] Rising real per capita income and urbanization appeared positively related to improving diets.

The fifth nationwide food consumption survey was undertaken 1965-66. It was widely expected that continued diet improvement would be reported. There were many reasons why this expectation seemed a reasonable one. Median real income of U. S. families had risen from $6,000 in 1955

to $8,100 in 1965, a sharp upward gain of 35 per cent.[2] The per cent of U. S. families in poverty declined from 19 in 1955 to 13 by 1965. Average consumers never had it so good. The expansion in super markets had increased the average number of items carried from 4,700 to over 7,000.[3] American consumers found it necessary to spend less of their total expenditures on food than any consumers in history, less than 20 per cent in 1965.[4] The level of discretionary spending was never higher. Literacy rates, which were already at 97 per cent in 1955 were virtually at 100 per cent by 1965.[5]

II. The Actuality: Declining U. S. Diets, 1955-1965

A preliminary report on the 1965-1966 Household Food Consumption Survey was made in January 1968[6] and a Final Report was released in July of 1969 by the U. S. Department of Agriculture. The findings brought surprise in many quarters. U. S. diets declined, 1955-1965. The findings are summarized in Table 1.

Table 1. Per cent of U. S. Diets Rated at Three Levels of Quality, 1955 and 1965

Quality Rating	1955	1965
Good[1]	60 %	50 %
Fair[2]	25	29
Poor[3]	15	21

[1]Good: met Recommended Daily Allowances for seven nutrients.

[2]Fair: met two-thirds RDA for seven nutrients but below RDA for 1 to 7.

[3]Poor: below two-thirds RDA for 1-7 nutrients.

Source: U. S. Department of Agriculture, Household Food Consumption Survey, 1965-66, Dietary Levels of Households in the United States, Spring 1965, Report No. 6, July 1969, p. 9.

It was quickly noted in the news media that not only had average diets declined in quality but there was a positive relation between diet quality and income. Among high income families with earnings of $10,000 or more annually, 63 per cent had good diets. Among the low income poverty families earning under $3,000 only 37 per cent had good diets.[7] The off-hand conclusion: declining diets were due to declining income of some "underclass" sector of the population. This did appear to be a reasonable explanation. The only way to correct this was through massive infusion of federal income transfers,food stamps or commodities or all three. Dramatic news stories and TV documentaries on widespread "hunger" and "malnutrition" received much public attention.

III. A Second and Closer Look at "Declining" Diets

Before accepting the above conclusion that declining diets were income oriented, it might be well to take a second and closer look at just what the 1965 Household Food Consumption Survey actually reported. Two aspects stand out.

First, the decline in nutrient values per day was from quite high levels in 1955. Even after the decline,the nutritive value of food used at home per person per day was on average far above the recommended daily allowances for every nutrient and at all income levels. (Appendix, Table 2). Thus the problem of "poor" diets was an individual problem, not a mass problem. Average intake was described as "generous."[8] (Appendix, Table 3)

Second, the decline was not only characterized by wide individual variations within income groups but it was highly selective by particular nutrients. The 1965 Survey showed that 98 to 99 per cent of all U. S. households had adequate daily intake of protein, thiamine, riboflavin and iron. (Appendix, Table 4.) Only in calcium, vitamin A and ascorbic acid did the per cent drop to between 87 and 92 per cent, which, considering individual differences and the fact that diets change over time, could hardly be described as "alarming." In other words the 1965 Survey results suggested the almost complete absence of gross undernutrition that would lead to actual hunger or acute malnutrition. It suggested that while low income might be a factor in a few cases, some other factor or factors had to account for the rise in per cent of population with poor nutrition. This latter observation is supported by the fact that nearly as many persons in the highest income class had daily intake of one nutrient below RDA (19 per cent) as persons in the lowest income class (24 per cent). (Appendix, Table 5). This point is reinforced by the fact that nearly 40 per cent of all high income families had diets not rated "good." This was clearly not due to the income dimension. Some other nonincome factors in changing life styles and food habits in an urbanizing society were presumably involved.

IV. The National Nutrition Survey 1968-1970: Preliminary Findings

Additional insights into the nutritional levels of the U. S. population are now available from the preliminary report of the Ten-State Nutrition Survey in the United States, 1968-1970.[9] This survey was begun

in June 1968 and completed in May 1970, as authorized by the Congress in response to reports of widespread and continued hunger and malnutrition in 1967 and 1968.

Although findings are preliminary and caution must be exercised in drawing final conclusions at this time, a brief summary follows:

1. It was found there was an almost complete absence of the common nutritional diseases among all sectors of the U. S. population including families classified in poverty. (Appendix Table 6). This finding suggests that the inferences about "hunger" and "malnutrition" drawn from the 1965 Food Consumption Survey were incorrect. The few isolated cases of nutritional diseases were reported as idiosyncratic and situational.[10]

2. The average nutritional levels of the lowest socio-economic groups, including a big city ghetto area, appear well within the range of acceptability as measured by biochemical analysis. (Appendix, Table 7).

3. There was no persistent relationship between income level and dietary adequacy. By income levels there was little or no difference in intake of calories, protein, vitamin A. Iron intake was lower among the poverty population than among higher groups. But the poverty population was better supplied with vitamin C than the higher groups.

4. The major nutritional problem revealed to date is the fact that selected individuals have low levels of vitamin A, particularly teen-agers, and iron, especially infants. Since both of these occur at all income levels it would appear to be due to improper food habits, preferences or awareness.

5. There was a close association between selected nutritional deficiencies and size of family. The larger the family, the more the members had serious nutritional problems. Thus undernutrition appears closely related to malprocreation relative to income.

In general therefore, it appears reasonable to conclude from the National Nutrition Survey to date that poor and changing food habits and lack of nutritional knowledge (along with excessive family size) rather than income, are major factors in the nutritional problems of U. S. families. The National Nutrition Survey confirms and supports the findings of the Household Food Consumption Survey of 1965-66.

The question still remains: What are the nonincome factors that apparently account for so much of the decline in diet quality? They presumably are in some way associated with the urbanization process and rising income.

V. The "New" Urbanization and Declining Diets

If declining diets are related somehow to the urbanization process, the question still remains--how? This paper will contend that the answer is to be found to considerable extent in the changing nature of urbanization.

For purposes of discussion it might be useful to divide urbanization into "old" and "new" categories. The "old" urbanization process may be said to have occurred between 1890 and 1950. The "new" urbanization may be said to have taken place since 1950 or a mere two decades.

What characterized the "old" urbanization? The nation's cities grew, some slowly, some rapidly, from internal growth, from immigration, and from rural-urban migration. In the big cities the movement was centrifugal with population densities rising within the metropolitan areas. Meanwhile what happened to the structure of rural America? Very little. Rural America was remarkably stable through this entire period. The farm population (rural farm) was stabilized at around 30,000,000 for the half century from 1890 to 1940.[11] The number of farms rose from 4 million in 1880 to a few over 6 million in 1910 and remained virtually unchanged to 1945.[11] The movement of surplus population off the farms was largely

voluntary as teen-agers and young adults sought better economic opportunities in the urban areas.

Then suddenly, a combination of factors including the accelerated productivity in agriculture in general and the long delayed technological revolution in the cotton growing states, in particular, the acreage limitations of federal farm policy, prolonged postwar high and expanding levels of employment in the urban areas, brought about a "new" urbanization phase. The traditional stability of rural America was completely disrupted. Depopulation set in. The farm population declined from the old stabilized level of 30 millions to 23 million in 1950, 16 millions in 1960 to around 9 millions currently, an astonishing drop of 70 per cent in less than a single generation.[11] The number of farms declined from the stabliized level of 6 million in 1945 to somewhat under 3 million by 1970.[11] From 1940 to 1960 over half of the 3,100 counties in the U. S. lost population. Some states lost 50 per cent of their farm populations in a single decade.[12] This outward migration was no longer largely voluntary by the young. It was involuntary displacement caused by the sharp net decline in rural opportunities. It involved adults--entire families, as well as youth. For blacks it constituted a sudden mass exodus from the South.

Meanwhile the nature of the city-building process also underwent drastic change. The centrifugal forces reversed themselves. They became centripetal. The central cities grew only one per cent, 1960-1970, the suburban rings grew by 28 per cent while the rural population declined 38 per cent.[13] The suburbanization movement reflected diffusion of affluence, greater mobility, more leisure, changing life styles.

It is appropriate at this point to return to the key question. What was the relationship, if any, between the "new" urbanization process and declining U. S. diets 1955-1965? Was there a causal relationship? Or were the trends merely associational? This question can be subdivided into two parts. What happened to farm diets? What happened to urban diets?

In rural America the "new" urbanization was accompanied by major changes in food habits. Commercial farms grew much larger and in so doing virtually abandoned home production of food. The small farms, that had produced much of their own food, disappeared rapidly. With their disappearance went the fresh fruit and vegetable deliveries every week to urban dwellers by small farmers. Remaining rural America bought its food in town, commercially produced in convenience form.

Meanwhile the changes in urban food habits were just as profound and just as revolutionary. Seven may be noted briefly here. First, was the almost complete cessation of wide-variety home garden food production by urban families. Second, there was a sharp decline in wide-variety home-prepared foods. Third, was the growth in preferences for limited-variety, convenience foods. Fourth,was a strong trend toward consumption of more foods away from home at limited variety "fast" food establishments. Fifth,was a strong trend toward meal skipping, especially among teen-agers. Sixth,was the declining role of food in family budgets as incomes rose. Seventh,was the declining market availability of selected nutrients which reflected both supply and demand factors but particularly the latter as consumers in both urban and rural areas reduced their purchases of selected food items, as milk and dark green and deep yellow vegetables.[14]

In sum, as a result of the "new" urbanization, U. S. consumers, although ever more affluent, changed their food habits away from home produced, home prepared, wide variety foods, to much more limited variety convenience foods purchased or consumed away from home.

VI. The Declining Diet Phenomenon in Microcosm: Vitamin A

What was the nutrient consequence of these changes in food habits? This question may be examined more closely by reviewing the results of the U. S. Department of Agriculture's Household Food Consumption Survey. It was found that the nutrient values per person, per day, 1955-65 increased slightly in two values, protein and iron, remained about the same in two, food energy and fat, decreased slightly in three, thiamine, riboflavin and ascorbic acid, but declined substantially in just two nutrients; that is, 10 per cent in the case of both calcium and vitamin A. (Appendix, Table 8) The latter will be used to illustrate the nature of the change.

The principal sources of Vitamin A are liver and dark green and yellow vegetables including carrots, spinach, sweet potatoes, collards, turnip greens, squash, kale and mustard greens.[15] These were widely consumed when grown in rural or urban gardens or delivered by small farmers with regular urban routes. But when these sources declined, consumers shifted to purchasing convenience foods commercially prepared and distributed. They chose foods very low in vitamin A. The result: per capita consumption of dark green vegetables, carrots and sweet potatoes declined 33, 20, and 42 per cent respectively, 1955-1965. On the other hand "fast" foods low

in Vitamin A as chicken, potato chips and soft drinks increased 45, 83 and 41 per cent respectively.[16] The market place reflected this shift in food patterns. The total vitamin A available per capita per day in the U. S. declined from the 10,000 I. U. units in 1945 to 8,300 in 1950, to 7,967 in 1967 and down to 7,800 in 1968.[16] This change reflects the impact of the "new" urbanization. The individual state reports contributing to the National Nutrition Survey 1968-70 confirm the particular dislike of teen-agers for the above cited foods rich in vitamin A. This suggests that unless such food patterns are modified, the decline in vitamin A values per person per day could well continue, or even accelerate, in the future as the "new" urbanization continues and incomes rise.

VII. Improving Diet Quality in the "New" Urban Environment Won't Be Easy

If the primary nutrition problem of the U.S., with its "new" urban environment and diffused affluence, is one of improving the quality of diets, the next obvious question is: How can this be done? All the evidence indicates it won't be an easy task. Four kinds of evidence may be cited--not conclusive to be sure, but indicative.

First, in 1970-71, a number of manufacturers of food products and leading food chains, undertook an extensive nutrition "awareness" campaign, at substantial cost, intended to make consumers more knowledgeable about good nutrition and the importance of selecting food with a wide variety of nutrients. Every known media was used: newspapers, TV spot announcements, bonuses for consumer response to nutrition ads, in-store signs, window

signs, etc. The results to date have been minimal. Some few people responded, most remained apathetic and disinterested. As long as consumers believe they purchase enough food in a quantitative way, the qualitative aspects apparently seem unimportant.[17]

Second, the Extension Service of the U. S. Department of Agriculture has undertaken an intensive "in-reach" program, 1970-71, which sends trained nutrition aides into the homes of low-income, high-risk families, particularly in urban ghetto areas. The objective is to improve knowledge of food buying and preparation so as to get adequate daily nutrient intake from existing income. The latter has been considered sufficient, if spent with enough knowledge of food values. The results to date: a few families, around ten per cent, have improved their food habits. The 90 per cent show little or no improvement.[18]

A third approach has been undertaken recently in New York City. It was believed consumers didn't buy well because it is too difficult and time consuming to calculate the actual differences in values among products priced by different weights and sizes. Which is the better buy, 2 ounces of coffee for 73¢ or four ounces for $1.19? Uniform pricing per pound would clearly reveal the latter ($5.84 vs. $4.76). So, on June 1, 1971, after an extensive consumer campaign, the City of New York required retail stores to change to unit pricing. The results to date? Minimal. A few customers took advantage of the change. But a majority have been either too much in a hurry, or just apathetic, to pay much attention to unit pricing.[19]

A fourth view of the problem may be obtained from efforts over the last 20 years to improve the diets of Spanish-speaking Americans in

several localities in the Southwest. Strong cultural factors determined their diets were made up largely of tortillas, tamales, pinto beans, chili, corn products. Efforts were made to add nutrient variety to this diet. The results? Minimal. The diets of these Mexican and Spanish-Americans continue to be deficient in selected nutrients, particularly iron and the B-vitamins. Most diets were rated poor regardless of income. There was some positive relationship between education and diet quality.

In sum, one can only conclude that improving food habits among families at all income levels and among various cultural groups will not be an easy task. The evidence raises serious doubts that higher welfare payments, food stamps or commodity distribution, will do very much for the low income families, and obviously nothing for the 90 per cent of U. S. families among the poverty threshold.

VIII. The Neglected Problem: "Too Much" Nutrition

In recent public discussion of the nutritional status of the U. S., attention has focused primarily on gross undernutrition. In so doing, another, and rapidly growing problem, probably the biggest single problem, has been overlooked, namely malnutrition which takes the form of overnutrition. "Too much" can be as much of a health hazard as "too little" or a "poor mix". All nutrients can be injurious if consumed in excess. Overweight from excessive food consumption, can lead to nutritional diseases, as well as gross undernutrition. This growing problem was pointed out at the Western Hemisphere Congress II.[21] There is considerable

evidence that the leveling out in the longevity rates of American males may well be due to overnutrition over a long period of time.[21] It appears unfortunate that the high incidence of food iron deficiency among a large per cent of U. S. children may be due, in considerable part, to "too much" milk. One can only hope the problem of overnutrition, a growing problem, will receive as much attention among nutritional authorities as gross undernutrition, a fading problem, in a developed country as the U. S. The neglect of overnutrition problems by the National Nutrition Survey, 1968-1970 is to be regretted.

IX. A Brief Summing Up

The U. S. has moved recently through two stages of urbanization. During the first stage, diets improved as incomes rose. During this period the national nutrition problem was quantitative and was largely self-correcting over time. This period ended at about mid-century.

Since the mid-1950's, the U. S. has entered a "new" stage of urbanization. Poverty has continued to decline to all-time low levels, and real family median incomes have continued to rise to all-time high levels. But because of changing food habits and styles of living, diets have declined in quality. Income is no longer the key to "good" diets. The "new" nutritional problems are therefore not necessarily self-correcting over time. Rather, they may well worsen with time.

In view of the nature of the recent changes in U. S. diets, one may reasonably raise doubts as to how much will really be accomplished by issuance of free or low-cost food stamps to all low income families, unless

accompanied by an intensive campaign to raise nutritional knowledge and change food habits. Despite the difficulties involved, it may prove much more effective to fortify and enrich the popular "fast" preferred foods, rather than try to persuade the population to consume more of the unpopular "slow" foods, increasingly neglected in the "new" urban environment.

At the beginning of the century, one could say that the major U. S. nutritional problem was one of being "underfed and therefore undernourished." As we approach the three-quarters mark in this century, one may reasonably say the "new" U. S. is "overfed, but undernourished."

The change in the nature of U. S. nutritional status confronts the medical and nutrition professions with a whole new set of problems. There are few guidelines into the future. The evidence thus far indicates the task of improving national nutrition in an affluent, mobile, suburbanizing society, will not be easy. The "new" "malnutrition of abundance" has many formidable dimensions. Its resolution will clearly require new strategies and accelerated research and discussion. The Western Hemisphere Congress III should contribute importantly to that end.

FOOTNOTES

1. Daniel A. Swope, "Diets of Men, Women and Children," talk before 46th Annual Agricultural Outlook Conference, Washington, D. C., February 19, 1969, Agriculture Research Service, U. S. Department of Agriculture, 1969. (see also Appendix, Table 1.)

2. U. S. Bureau of the Census, Current Population Reports, Series P-60, No. 75, p. 24 and supplementary data provided by Population Division, U. S. Bureau of Census. Data on per cent of U. S. families in poverty from Economic Report of the President 1971 p. 220 (Poverty threshold, $3,000 annual income).

3. Progressive Grocer, April, 1969, p. 53.

4. Per cent of disposable income spent on food declined from 22.2 per cent in 1950, to 21.1 per cent in 1955 and to 18.2 per cent in 1965. U. S. Department of Agriculture, Food Consumption, Prices and Expenditures, Agricultural Economic Report No. 138, July 1968, p. 181.

5. U. S. Bureau of the Census, Current Population Reports, Series P-20, No. 217, March 10, 1971, p. 1.

6. U. S. Department of Agriculture, Dietary Levels of Households in the United States, Spring, 1965. A Preliminary Report. Washington, D. C. January 1968.

7. U. S. Department of Agriculture, Household Food Consumption Survey, 1965-66, Dietary Levels of Households in the United States, Spring, 1965, Report No. 6, July 1969, p. 6.

8. One of the country's leading nutritionists described the average amount consumed per person per day in the Spring of 1965 as sufficient to meet the goals set by nutrition specialists. It was found that almost the entire population had something to eat or drink more than three times a day. Sixteen per cent of men, 20 to 34 years of age had something to eat or drink six or more times a day...percentages were only slightly smaller for women. Thus the U. S. diet problem was a selective one involving particular groups, particularly teen-age girls and women. See, Faith Clark, "A Scorecard of How We Americans Are Eating," Food for Us All, Yearbook of Agriculture, U. S. Department of Agriculture, 1969, p. 266-267.

9. U. S. Department of Health, Education and Welfare, Ten-State Nutrition Survey in the United States, 1968-1970. Preliminary Report to the Congress, April, 1971, 64 pp.

10. For discussion and analysis see individual state reports as, West Virginia State Department of Health, West Virginia Nutrition Survey, 1969, Charleston, West Virginia, 1970, (mimeo) (unpaged) and Proceedings of Follow Through Conferences on West Virginia Nutrition Survey, 1969, State Departments of Health and Education, September 1970 (mimeo) 53 pp.; Michigan State Department of Health and Michigan State University, Michigan Nutrition Survey (Preliminary) June 30, 1971, (mimeo), 101 pp.; "The National Nutrition Survey in New York City," by Robert G. Newman, M. D. and Suzanne Martin, R. N., paper delivered at New York Academy of Sciences, October, 1970 (mimeo) 24 pp.; "Nutrition Survey in Texas," Texas Nutrition Survey Team, Texas Medicine, Vol..65, No. 3, March 1969, pp. 40-49; South Carolina Nutrition Survey (Preliminary Data) South Carolina State Board of Health, 1971 (mimeo) (unpaged).

11. U. S. Bureau of the Census and U. S. Department of Agriculture, as compiled in Historical Statistics of the United States: Colonial Times to 1957 and U. S. Bureau of the Census, Current Population Reports, Census-ERS, Series P-27, No. 41, June 18, 1970; various releases of the U. S. Department of Agriculture.

12. Everett S. Lee and June Mervine, "Our Disappearing Rural Population: What Are the Consequences," Vital Issues, Vol. XVII, No. 8, April 1968.

13. George Brown, "1985," Statistical Reporter, No. 71-11, May 1971. The one per cent growth of the central cities, 1960-1970 doesn't really reflect the marked changes that took place. During this decade there was a decrease of 2.1 million whites, an increase of 2.7 million blacks for a 600,000 net increase or a little under one per cent. Had it not been for the inmigration of blacks there might well have been a depopulation movement as in the rural areas. It is estimated by the Bureau of the Census that by 1985 half the U. S. population will be living in the suburban areas.

14. For a detailed discussion of these changing food patterns, see the author's "Implications of Changing Food Habits for Nutrition Educators, Journal of Nutrition Education, Spring 1971, pp. 140-146.

15. U. S. Department of Agriculture, Nutritive Value of Foods, Home and Garden Bulletin, No. 72, Revised, September 1964.

16. U. S. Department of Agriculture, Food Consumption, Prices, Expenditures, Agricultural Economic Report No. 138, July 1969, pp. 59, 61, 86, 144 and Supplement for 1968, p. 51.

17. Preliminary reports to the author from leading food chains.

18. Robert E. Fraye, "The Expanded Food and Nutrition Education Program," Family Economic Review, March 1971, pp. 30-33. See also, Nicole A. Seoane, "Shopping Practices of Low-Income Groups for Convenience Foods," Journal of Nutrition Education, Summer, 1971, pp. 28-32.

19. Grace Lichtenstein, "Unit Pricing Gets Off to a Faltering Start," New York Times, July 14, 1971, p. 31.

20. See, e.g., Marcelle A. Bailey, "Nutrition Education and the Spanish-Speaking American," Journal of Nutrition Education, Fall, 1970, pp. 50-54.

21. See, Dr. Abraham Horwitz, "The Physicians View of Nutritional Needs in the Western Hemisphere," Proceedings, Western Hemisphere Conference I, American Medical Association, Chicago, Illinois 1966, p. 5.

APPENDIX

Table 1

Estimated Average Daily Intake Per Person Above or Below Recommended Daily Allowances, Nine Nutrients, Selected Years, 1900-1965

Average Daily Nutrient Intake Per Person	Number of Nutrients*						
	1900	1925	1936	1942	1948	1955	1965
Above RDA	4	4	3	5	5	6	9
Below RDA	5	4	6	4	3	3	0
Data Not Available**		1**			1**		

*Food energy (calories), protein, calcium, iron, Vitamin A, thiamine, riboflavin, niacin, ascorbic acid

Source: Nutrient value data for 1900 is based on 50 diet studies made between 1895 and 1903 and are not strictly comparable with recent food consumption surveys. See, Kathleen Stitt, "Nutritive Value of Diets Today and Fifty Years Ago," Journal of the American Dietetic Association, Vol. 36, No. 5, May 1960, pp. 433-440. Data for 1925 is for 1920-24 as calculated from unpublished data by Hazel K. Stiebeling in "Adequacy of American Diets," Journal of the American Medical Association, Vol. 121, No. 11, March 13, 1943, p. 833. Data for 1936, 1942, 1948 and 1955 from U. S. Department of Agriculture, Evaluation of Food Used in Households in the United States, Household Food Consumption Survey 1955, Report No. 16, November 1961, p. 30. Data for 1965 from U. S. Department of Agriculture, Dietary Levels of Households in the United States, Spring 1965, (A Preliminary Report), January 1968, p. 10. Niacin not reported in 1968 Preliminary Report. Intake of niacin equal to or above Recommended Daily Allowances assumed for 1965 in view of excess levels in 1955.

The recommended allowances used are those of the Food and Nutrition Board, National Research Council, National Academy of Sciences, Reports included: Inadequate Diets and Nutritional Deficiencies, Bulletin No. 109, November 1943; Recommended Dietary Allowances, Revised 1953, Bulletin No. 302, 1953; Recommended Dietary Allowances, Sixth Revised Edition, Publication No. 1146, 1964, and Seventh Edition, Publication 1694, 1968.

Table 2

Nutritive Value of Food Used at Home Per Person Per Day, By Income Level, Spring 1965

The 1965 Consumption Levels

Income Level (1964)	Food Energy (Cal.)	Protein (Gr.)	Fat (Gr.)	Calcium (Mg)	Iron (Mg)	Vitamin A (I.U.)	Thiamine (Mg)	Riboflavin (Mg)	Ascorbic Acid (Mg)
	Nutritive Values of Daily Food Consumed Per Person								
Under $3,000	3,115	98.1	143.2	1,081	19.3	6,790	1.57	2.24	84
$3,000-$4,999	3,177	102.4	150.1	1,072	19.4	7,010	1.58	2.30	89
$5,000-$6,999	3,208	106.7	155.2	1,112	19.5	7,490	1.57	2.41	101
$7,000-$9,999	3,284	109.5	160.0	1,149	19.4	7,340	1.59	2.43	110
$10,000 and over	3,303	112.9	162.3	1,177	20.0	8,140	1.59	2.51	128
The 1968 Dietary Standards									
Rec. Daily Allow:	2,800	65	N.A.	800	10	5,000	1.4	1.7	60
Two-Thirds of Rec. Daily Allow:	*1,865	43	N.A.	500	7	3,330	0.9	1.1	40

*Rated as adequate

Source: Nutritive value data from U. S. Department of Agriculture, Dietary Levels of Households in the United States, Spring 1965, A Preliminary Report, January 1968 (released April 1968) p. 16.

Data on 1968 dietary standards from National Academy of Sciences, Recommended Dietary Allowances, Seventh Edition, 1968.

Table 3. Amount of Food Consumed Per Person Per Day, Spring 1965

meat, poultry, fish	10.5 ounces*
egg	1.0
milk	2.5 cups**
potatoes, sweet potatoes	4.0 ounces
fruits, vegetables	1.0 pound
bread	3.5 slices
other bakery products	2.2 ounces
fats, oils, salad dressings	2.0 ounces
sugar, other sweets	2.5 ounces

* about two servings per day
** or equivalent in milk products plus other beverages

Source: Faith Clark, "A Scorecard of How We Americans are Eating," Food For Us All, Yearbook of Agriculture, 1969, p. 266.

Table 4. Per cent of U. S. Households with Diets Providing Less than Two-Thirds Recommended Daily Allowances, 1965

Nutrient	Per cent Below Two Thirds Recommended Allowances*
Protein	1
Thiamine	1
Riboflavin	1
Iron	2
Calcium	8
Vitamin A	10
Ascorbic acid	13

*Food and Nutrition Board, National Research Council, National Academy of Sciences

Source: U. S. Department of Agriculture, Household Food Consumption Survey, 1965-66, Dietary Levels of Households in the United States, Spring 1965. Report No. 6, July 1969, p. 9.

Table 5. Per cent of U. S. Diets by Number of Nutrients Below Allowances By Income Level, 1965

	None Below Allowances*	1 Below	2 Below	3 or more Below
Under $3,000	37	24	17	22
$3,000-$4,999	43	25	15	17
$5,000-$6,999	53	21	12	14
$7,000-$9,999	56	23	11	10
$10,000 and over	63	19	8	10

*Recommended Daily Allowances, Food and Nutrition Board, National Research Council, National Academy of Sciences (1963) for seven nutrients.

Source: U. S. Department of Agriculture, Household Food Consumption Survey, 1965-66. Dietary Levels of Households in the United States, Spring 1965, Report No. 6, July 1969, p. 6.

Table 6. The Common Nutritional Diseases

Disease	Nutrient Deficiency
marasmus	protein-calorie
kwashiorkor	protein
xerophthalmia	vitamin A
kerotomalacia	vitamin A
beriberi	thiamine
rickets	vitamin D (or calcium)
osteomalacia	vitamin D (or calcium)
scurvy	vitamin C
pellagra	niacin
ariboflavinosis	riboflavin
filliform papillary atrophy	vitamin E (or iron)
anemia, acute	iron

Table 7. Per cent of Lowest Socio-Economic Population in National Nutrition Survey of Ten States* and New York City, Reported Above "Deficiency" Level By Poverty Status and Selected Health Categories 1968-1970

Health Category	Per cent Above Deficiency**Status	
	Population Below Poverty Level	Population Above Poverty Level
Hemoglobin	95%	98%
Vitamin A***	98	99
Vitamin C	99	99
Riboflavin	97	99

*Texas, Louisiana, New York State, Kentucky, Michigan, West Virginia, California, Washington State, South Carolina, Massachusetts.

**"Deficiency" defined at a level "that most authorities would accept these values as abnormal." "Low" is open to more variation in interpretation and "generally represents a borderline situation." See, South Carolina Nutrition Survey, State Board of Health, Third Release 1971, (mimeo).

***Texas, Louisiana, New York State, not available.

Source: Center for Disease Control, U. S. Department of Health, Education and Welfare, Ten-State Nutrition Survey in the United States, 1968-1970. Preliminary Report to the Congress, April 1971, 66 pp.

Table 8. Nutritive Value of Foods Used Per Person Per Day, U. S., 1955 and 1965

Nutrient		Value Per Person Per Day[1]		Per cent Change from 1955
		1955[2]	1965	
Food energy	cal	3,220	3,210	*
Protein	g.	103	106	+3
Fat	g.	154	154	0
Calcium	mg.	1,240	1,110	-10
Iron	mg.	19.1	19.5	+2
Vitamin A value	I.U.	8,150	7,330	-10
Thiamine	mg.	1.63	1.57	-4
Riboflavin	mg.	2.50	2.38	-5
Ascorbic Acid	mg.	108	101	-6

1. 21 meals from home supplies equal one person

2. Adjusted to include (1) revisions in food composition values made since 1955 and (2) nutritive values for alcoholic beverages, coffee, and baking powder.

* Less than 0.5 per cent

Source: U. S. Department of Agriculture, Household Food Consumption Survey 1965-66, Dietary Levels of Households in the United States Spring 1965, Report No. 6, July 1969, p. 8.