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## RELATION OF AGRICULTURAL PRODUCTION TO NUTRITION IN AUSTRALIA.

(P. Vaidyanathan).

### Introduction.

Viscount Astor and B.S. Rowntree in their Report on British Agriculture in 1938 said, "It seems probable indeed that the improvements of the standards of nutrition will come increasingly to be regarded as an important aim of national policy analogous to the improvement of sanitation in the pre-war (before 1914) and of housing standards in the post-war period". The reports on the Problem of Nutrition published by the League of Nations, the work done on the economics of nutrition by Sir John Orr, Bowley and G.D.H. Cole in England and by Stiebling and Ward in the U.S.A. just before the war started in 1939, have widened our present interests in the problem of food and nutrition in relation to the development of national health on the one hand and adjusting agricultural production on the other.

The outbreak of war and the necessity for the introduction of a ration scale for a proper distribution of the available food have given an opportunity to apply the principles of a minimum adequate nutrition to the ration scale in order to preserve the health of the community. Food production goals introduced in the United Kingdom, the U.S.A. and Australia are determined partly by the ration scale fixed for civilian population and partly by the requirements of the services. To a certain extent it may be considered that agricultural production in these countries during the war is related to a minimum nutritional standard.

### Production Adjustment to Nutrition.

War-time food production goals, not only in Australia but in other countries, are unevenly balanced between the best nutritional standards obtainable for the services and minimum nutritional standards for the civilians. Though consumption is severely restricted for the large majority of the population, production goals fixed for agriculture place a greater demand for protective food, viz., milk, leafy green coloured vegetables, vitamin C - rich fruits and eggs, than in peace time. In peace time, if adequate nutritional standards for all the people are related to agricultural production, they will definitely result in increased production of milk and butter and hence more cows and the production of more feed, increased production of eggs, fruits and succulent vegetables.

As far as Australia is concerned, adjustment of agricultural production to a desirable nutritional standard in the post-war period will involve an attempt to give approximate answers to the following broad questions:-



- (i) To what extent does an agricultural output geared to recent average consumption requirements exceed or fall short of dietary standards established primarily from the point of view of nutrition?
- (ii) What would be the effect on agricultural output if it were adjusted to provide the quantities of such commodities that nutritional standards would require?

The statement and the chart on agricultural production adjusted to a desirable nutritional standard appended to this article (pages 31 and 53) will give a ready answer to these questions.

#### Nutritional Standard for Australia.

The nutritional standard adopted for the purpose of determining the adjustment necessary for agricultural production has been prepared from the notes submitted by Dr. Clements to the Executive Member of the Australian Food Council and from his book "Diet and Nutrition for the Australian People". Dr. Stiebeling of the Bureau of Home Economics, Department of Agriculture, U.S.A., prescribes four standards of nutrition for incomes of varying levels. Stiebeling's methods will give better and more reliable results in adjusting agricultural production to nutritional standards. Unfortunately, Stiebeling's nutritional standards cannot be adopted in determining agricultural adjustment in this country. The standards of nutrition and the income levels in Australia vary from those in the U.S.A. However, if Australia has to adjust her agricultural production to adequate nutritional standards in the post-war period, such adjustment could be made to any satisfactory degree only on different nutritional standards for varying income groups. The statement appended to this article is intended to give only a rough idea of adjustment necessary in agricultural production if a desirable consumption level existed. It does not take into consideration any variation in the income level.

#### Desirable Consumption Level and Agricultural Adjustment.

The method used to arrive at the increase or decrease to be effected in agricultural production is to assume average exports to be constant and adjust production on the difference between average available consumption and desirable consumption of a commodity. In most cases figures for average exports and average available consumption in the statement attached are for the ten seasons ending 1939/40.

The statement shows the need for considerable expansion in dairying, egg production, potato growing, citrus industry and dried fruits.



Production of milk not only for the use of liquid milk but for milk products has to be increased by 23% of the average annual production. Before rationing was introduced, per capita consumption of butter was slightly higher than the desirable level. Total cheese consumption, however, is far below the desirable consumption. Per capita consumption of cheese is only 4.1 lbs. a year, but desirable consumption is nearly 11 lbs. a year. There is greater need for the consumption of wholemilk, skimmed, dried or concentrated milk. If the production of milk is to be increased it will necessitate an expansion in the acreage devoted to the production of feed crops and hay. Already in this country considerable emphasis is being placed on the need for an increase in the acreage of fodder crops and on the need for conserving fodder.

The statement shows a need for the increase of egg production by 9%. The figures refer only to commercial production of eggs. If statistics for the non-commercial production of eggs were available, probably there would not be any need for increasing egg production. The need would then be a better distribution of eggs between the cities and the country.

Total production of fresh fruits is nearly 19% above the desirable level. However, if we consider the production of citrus fruits alone it denotes a considerable shortage in production. The acreage under citrus fruits has to be nearly doubled to meet the increase in desirable consumption levels. The need for the increase in the production of dried fruit will be offset by the quantity of fresh fruits (fit for drying) available for consumption which is far higher than the level of desirable consumption.

While a 3% increase in the production of wheat is desirable no harm will be done if the acreage for wheat is actually reduced in favour of an increase in the acreage for fodder. The acreage for potatoes is to be increased definitely. No figures are available for the actual consumption of other vegetables but the desirable consumption level is about 750 million pounds.

Production of foodstuffs which are higher than desirable consumption level and average annual exports - e.g., sugar and pome and stone fruits - could be curtailed without much harm to the community.

Consumption of meat in Australia is not as far above the desirable level as is generally supposed. In fact, total meat production before the war was only 1% above the desirable production level.



# AUSTRALIAN AGRICULTURAL PRODUCTION IN RELATION TO NUTRITION.

Foodstuffs	Unit of quantity (In millions)	Average annual production	Average annual exports	Total available for consumption per annum	Total desirable consumption per annum	Available for consumption (Col. 5 + average exports (Col. 4))	Desirable consumption (Col. 6) + average exports (Col. 4)	Increase (+) or decrease (-) of Col. 8 of Col. 3.	% of increase (+) or decrease (-) to be effected in annual production
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wheat (a)	Bushel	177.76	115.70	62.06 <sup>(e)</sup>	68.86 <sup>(e)</sup>	177.76	184.56	+6.80	+3.8
Meat (b)	lb.	2,090.14	502.54	1,587.60	1,559.54	2,090.14	2,062.08	-28.06	-1.3
Milk (total for all purposes) (a)	Gallon	1,119.90	501.62	618.28	872.17	1,119.90	1,373.79	+253.89	+22.7
Eggs (a) (c)	Dozen	70.00	13.97	56.03	62.46	70.00	76.43	+6.43	+9.2
Vegetables (a) (d) - Potatoes	lb.	806.87	4.18	802.69	930.23	806.87	934.41	+127.54	+15.8
Fresh Fruits (a) - (i) Citrus (ii) Others	lb.	210.89 855.76	20.78 207.13	190.11 648.63	365.62 274.22	210.89 855.76	386.40 481.35	+175.51 -374.41	+83.4 -43.6
Dried Fruits (a)	lb.	172.95	124.12	48.83	113.01	172.95	237.13	+64.18	+37.1
Sugar (a)	lb.	1,561.30	719.26	842.04	437.28	1,561.30	1,156.54	-404.76	-25.9

## Notes:

- (a) Average annual production and exports for the ten seasons ending 1939/40.
- (b) Average annual production and exports for the five seasons ending 1939/40.
- (c) Commercial production only - Department of Commerce and Agriculture estimate.
- (d) Production figures for vegetables, except potatoes, are not available. Desirable consumption of vegetables not including potatoes - 750 million lbs.
- (e) Includes wheat used for seed and feed - 30.58 million bushels.



### A Comparison.

It will be interesting to compare here the need for the increase in protective foods in the U.S.A. Dr. Stiebeling says "The consumption of at least 10% to 20% more milk, 10% to 25% more butter, 25% to 70% more tomatoes and citrus fruits and about twice as much leafy green and yellow vegetables would be advantageous to the nutrition of our population".

### Conclusion.

The United Nations Conference on Food and Agriculture which met at Hot Springs, Virginia, in May and June, 1943, was the first international conference to discuss the question of adjusting agricultural production to an adequate diet for the people. If our present knowledge of food and nutrition is related to a planned agricultural production it will have far-reaching implications for our national health and agricultural economy.

## CANADA'S PLAN TO MAINTAIN AGRICULTURAL PRICES AN APPRAISAL.

(W.H. Pawley).

The Canadian House of Commons has recently passed an Act of outstanding importance with the purpose of placing a floor under agricultural prices during the transition period after the war. The wide scope of this Act and the methods to be used are sufficiently revolutionary to merit widespread attention in Australia.

It is the purpose of this article to give, first, an account of the provisions and purposes of this Act; secondly, to consider some of the economic implications of the objectives and proposed methods. There is a close parallel between the economic circumstances and social philosophy which have motivated the Canadian "Agricultural Prices Support Act, 1944" and the conditions prevailing in Australia.

### Placing a Floor under Agricultural Prices.

The Act provides for the establishment of a Board of three persons to be known as the Agricultural Prices Support Board. The powers of this Board are very wide, although it should be noted that responsibility for its primary power - to decide on the floor levels for prices of farm products - rests with the Government of the day.

In summary form the powers comprise authority to:-