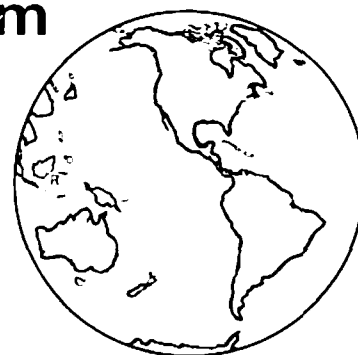


# Pro: A World Food Reserve System

James P. Grant



## Abstract

*World food reserves equivalent to 50 days of world consumption are advocated, either in the form of reserve grain stocks or in idled cropland in the principal exporting nations. The developed countries of the world are challenged to supply this need by producing food grains over and above the amounts required for their own consumption.*

Now that the world has become one vast interconnected grain market, the current debate over whether — and how — to establish an international food reserve system calls to mind with great pertinence the ancient biblical story of Joseph in Egypt. Four millennia ago, while Joseph, having been sold into slavery by his brothers, was languishing in prison, the Pharaoh was disturbed by a succession of dreams which none of his astrologers and wise men could interpret. A member of the court who had been befriended by Joseph when he, too, was in prison, mentioned to the king that this young man had explained precisely what his dream — and that of another fellow prisoner — had meant.

Pharaoh thereupon sent for Joseph and recounted the story of his dreams: One of them showed seven fat cattle standing on the river bank. Very shortly out of the Nile came seven very lean cattle, which proceeded with dispatch to devour the seven fat ones. A recurrence of this dream, showing first seven fat ears of grain and then seven lean, had distressed the king very much. To paraphrase, Joseph told him, "The seven fat cattle and fat ears of grain represent seven years of plenty, now beginning, which will be followed by seven years of famine so severe that they will blot out the memory of the time of abundance. Therefore, I advise you to store up grain in your barns during the surplus period, so you will have enough to feed your people during the seven years of want."

The Pharaoh was so struck with the apparent wisdom of this advice that he not only took it, but placed Joseph in charge of the stockpiling program as his personal representative. And it came to pass, just as Joseph

land, and only Egypt could supply food for its population. Elsewhere the situation was so severe that people came from all the neighboring countries to be helped by the Egyptian storehouses — a practice that was then successfully followed for hundreds of years.

## A World Without Adequate Food

This story from the Old Testament was forcefully brought to mind when the droughts of 1974 caught the world without adequate food stocks. The United States, whose surplus had served as the world's principal food reserve following World War II and during the drought years of the mid-1960s and 1972, could no longer meet such a crisis. Its own food stocks, largely a by-product of American policies to support farm incomes, had finally been reduced and there was no longer a surplus.

In retrospect, the Pharaoh indeed acted wisely, on the basis only of dreams and their subsequent interpretation by a slave. After 4,000 years of experience (and innumerable retellings of the story of Joseph and the Pharaoh), the highly interdependent world of the mid-1970s allowed — in fact encouraged — itself to be caught without meaningful food reserves in 1974. Payments to U.S. farmers to withhold land from production were at a peak in 1972. Even in 1973, months after Soviet grain purchases and the droughts of 1972 had seriously depleted world food stocks, American farmers were paid some \$2.5 billion to keep nearly 20 million acres out of grain production. As late as February 1973, Secretary of Agriculture Earl Butz continued to advocate the elimination of government stocks, saying, "We are working ourselves out of government stocks of farm commodities, and within a few months we will be either out, or almost out, of government holdings of grain. This will be the best position that we have been in since World War II. It will be a welcome day for farmers, for Congress, for the Government, and for the Nation."

The consequences of vanishing reserves are now well known: sharply rising prices in 1973 — despite a record grain yield worldwide — and still higher prices in 1974 when drought in South Asia and North America meant a lean year for global grain output. The U.S. balance of payments benefited, at least temporarily, from these

James P. Grant is president of the Overseas Development Council.

higher prices, as did most American grain farmers who had long suffered from low prices for their products. But higher grain prices also brought increased inflation to consumers everywhere, and rising death rates to millions of the world's poorest for whom sharply higher food prices inevitably meant starvation. The Federal Reserve Bulletin for October 1974 was to report that, in the year between summer 1973 and summer 1974 — a period coinciding with the fivefold price rise invoked by the Organization of Petroleum Exporting Countries (OPEC) — higher food costs had contributed more to inflation in the United States and globally than had higher oil costs.

By the spring of 1975 the world, with its depleted food stocks, was more vulnerable to drought and bad weather than at any time since World War II. However, because even a 2 percent surplus of grain over effective market demand could send prices plummeting, thousands of midwestern U.S. farmers were debating whether to voluntarily keep land out of grain production during the coming crop season. Unfortunately, the same market volatility meant that a comparable 2 or 3 percent shortfall in supply could send prices (and death rates) skyrocketing again.

### Food for a Global Village

Why not a food reserve system, to help increase market demand during years when grain production exceeds the effective market demand resulting from consumption, and to provide a supply for the years of inadequate production? Wouldn't this sharply reduce the unpredictable price fluctuations that are so harmful to long-term investment and production planning? Why shouldn't the world of the mid 1970s, so often referred to as a "global village" or "spaceship earth" because of its increasing interdependence and technological progress, take to heart on a global basis Joseph's wise advice to the Pharaoh 4,000 years ago? Why shouldn't there be a world food reserve system of coordinated national stocks, as recommended by Secretary of State Henry Kissinger for the United States Government and endorsed by the World Food Conference in November 1974 at Rome?

Several objections are frequently raised by those who advocate retention of the present sole reliance on the market place. First, the market place is said to be more effective without governmental intervention, leaving it more responsive to the fluctuations of supply and demand. When government action deprives the farmer of the full economic incentive of high prices for his products, there is, it is claimed, less efficiency in the farming system which ultimately leads to higher food prices. Second, it is argued that taxpayers of the grain exporting countries should not have the costly burden of financing world food stocks; the costs of maintaining food stocks should be borne primarily by the grain importing nations (1). Finally, it is also argued, and with considerable merit, that stockpiles in the past have served to depress grain prices to the prejudice of the farmer, tending to keep prices abnormally low, near the floor of the valleys, in normal years, and depriving years, and depriving farmers of the compensation of high prices, closer to the

peaks, during years of limited production. When commodities are scarce, government intervention on prices, it is claimed, tends to favor the consumers, who are numerous, over the farmers, who are few.

### Inadequacy of Existing Market Structures

The critical first question is whether the recent phenomena of soaring prices and shortages for food and fertilizer are a result of cyclical phenomena or *primarily* a consequence of far more fundamental factors. My thesis is that the crisis of the past year — while accelerated by short-term factors — are also very much the product of major long-term interacting trends. Most important among these is that growing demand has been outrunning traditional sources of supply for a number of essential commodities, including food, fertilizer, and energy, at a time when most nations, including the United States, are becoming heavily dependent on one another for their continued progress. In addition, world economic and political structures have been too slow in their responses. Major disruptions and higher inflation have been a consequence.

The short-term circumstances contributing to the jarring changes experienced worldwide in 1973 and 1974 include the unprecedented economic boom of the early 1970s (caused by simultaneous expansion of all the industrial economies for the first time since World War II), serious droughts that drastically limited available food supplies, and the Middle East conflict and resulting oil embargo which, among other effects, also hampered fertilizer production.

More basic forces, however, also have been at work. Foremost among these has been the unprecedented secular increase in rates of economic growth. The annual global growth rate, which was 4 percent in the late 1940s and early 1950s, rose gradually to almost 6 percent by the early 1970s. Over the same period, a \$1 trillion world economy became a \$3 trillion economy (\$5 trillion in current dollars), and the world's population grew from 2.5 billion to 4 billion. Meanwhile, the international economic institutions that had been created in the immediate postwar period increasingly confronted a set of problems beyond their scope and power to manage. Traditional economic and political concepts likewise have proved grossly inadequate for understanding both the domestic and international problems of the 1970s.

### The Problem of Systems Overloads

The main underlying problem is less one of physical limits to growth than one of institutional, technological, and conceptual limits. We are experiencing systems overloads from the unprecedented rates of growth in output of recent years. Like the short circuits in an overloaded electrical system, a rash of institutional breakdowns is threatening to overload various world systems such as the food, monetary, and ecological systems.

As we have moved to the \$3 trillion economy, global systems have shown increasing signs of stress. There is ecological overload: pollution, eutrophication of lakes. There are declining global fish catches because of

overfishing. The unprecedented increases in population and affluence of the 1960s and early 1970s have so expanded demand that the demand-supply relationship for a growing list of commodities (most conspicuously oil) changed what for many years had been a buyers' market to a sellers' market. Formerly weak sellers are using their new power to settle long-standing economic and political grievances. Increased demand has also led to multiyear shortages of a few critical commodities, notably food and fertilizers. Moreover, remedial efforts in one sector have frequently aggravated problems in another; thus, for example, measures to protect the environment both slowed the supply of energy (for example, the campaign against the Alaska pipeline) and increased demand (for example, antipollutant devices on cars which increase gasoline consumption). As growing demand has outrun the easier, customary sources of production, and as most nations, including the United States, have become heavily interdependent for continued economic progress, the response of world economic and political structures repeatedly has been slow and inadequate. Disruptions have resulted — and shock absorbers such as buffer stocks have become even more necessary.

### **Traditional Means Exhausted**

The growth in demand for food has imposed almost unbearable demands upon the existing international food production and distribution system. At the turn of the century the global demand for food increased annually by 4 million tons; by the early 1950s it was rising at an annual rate of 12 million tons; and in 1972, by 25 to 30 million tons. Global demand is projected by the United Nations Food and Agriculture Organization to rise from approximately 1.2 billion tons in 1969-1971 to 1.7 billion tons in 1985 (2). Roughly half of the current annual increase is accounted for by developed countries, where the rate of population growth is relatively low but the rate of increase in affluence is high. The other half of the increase occurs in developing countries, where high population growth is the principal cause.

The traditional means of expanding output in the developed world at current cost levels are being rapidly exhausted. The United States put the last of its idle cropland back into production in 1974. Moreover, in the developed countries, all water readily available for irrigation is already being utilized, and additional applications of fertilizer now bring sharply diminishing returns. As the National Academy of Sciences said in its recent study of U.S. agricultural production efficiency: "Clouds on the horizon do indeed cast doubt upon our national ability to produce all the food we and the world market require, especially if food prices are to remain at approximately their present portion of the citizens' paychecks." (3)

The principal longer-term means available for meeting the overall world supply gap, and at the same time alleviating the problem of inadequate food supply in the developing countries, is to increase production in those countries. In some developing countries there still is idle land that can be developed if a variety of natural ob-

stacles (for example, prevalence of the tsetse fly in Africa) can be overcome. Most developing countries have considerable unutilized potential — at present world grain price levels — for employing greater quantities of inputs such as water and fertilizer. (It would require increases in grain prices to make such increased use clearly economical in most developed countries). Densely populated, land-scarce countries such as India and Bangladesh also have a major potential for increasing yields (at lower costs than in developed countries) by implementing more labor-intensive, small-farm oriented agricultural development strategies. But existing government and private services are not reaching the small farmer — who generally lacks access to basic health and education services and to the financial credit required to increase his production. If India's yields per acre equalled those of the United States, it could readily double its present production of about 100 million tons annually (4).

The world, and particularly the United States, has been slow to recognize the developing overload of the world food production and distribution system, and slow to respond through policy and institutional changes. We are learning not to rely on multiyear forecasting by either the market place or the government. The U.S. Department of Agriculture (USDA) has a large, proficient, geographically well-situated group of professionals to analyze and forecast agricultural developments. Yet, in 1972, USDA economists failed to forecast either the short- or long-term dip in the anchovies catch resulting from environmental overharvesting which, in turn, increased the demand for U.S. soybeans and feed grains. USDA economists also failed to forecast the scale of the Russian grain purchase, caused by the changed political situation inside the Soviet Union. In 1973, USDA economists (and the White House) were utterly unprepared for the effect of soaring grain prices on the U.S. economy. Only after some half-dozen forecasts did the USDA economists forecast an accurate figure, which was many times higher than their original 3 percent price rise forecast.

### **Buffer Stocks Needed**

Thus, the experience of the past three years underlines the imperative need for buffer stocks in the form of substantial grain reserves. The absence of a firm program to rebuild world grain stocks that would ensure a market for all the food grains that could be produced over the next several years, already has led to much talk — and presumably some action — among American farmers about less than all-out grain production, for fear of creating in excess of immediate market demand and causing plummeting grain prices — and possible losses for many farmers. This is a form of Russian roulette for the world at a time of virtually nonexistent stocks. Little wonder that Secretary Kissinger at the World Food Conference, with the grudging assent of Secretary Butz, stated, "Protection against the vagaries of weather and disaster urgently requires a food reserve. Our estimate is that as much as 60 million tons over current carryover levels may be required."

## A World Food Reserve System

At the World Food Conference, a truly global response to this global problem was finally begun with the leadership and support of the United States. The conference identified and initiated action to deal with the critical issues: increased assistance for food production in developing countries; establishment of an international system of grain reserves; reform and expansion of food aid; and commitment by developing countries to rural reforms designed to assist the poor majority of their small farmers. Implementation of the conference proposals would effect a major overhaul of the world food production-distribution system. With appropriate action, the world could feed more than twice the number of people it feeds today.

This brings us to the key details, including the need to avoid important defects of the former system, which placed the financial burden overwhelmingly, and unfairly, on the United States — and sometimes undoubtedly depressed grain prices, to the unfair disadvantage of farmers here and abroad.

As to how large a reserve is needed, experience indicates that the world should have the equivalent of 50 days of world consumption in the stocks of the principal exporting nations, either in the form of reserve grain stocks or in idled cropland. Below that figure prices tend to fluctuate widely. This would argue for a world reserve above current carryover of approximately 50 to 80 million tons of grain, and a higher figure by 1980 (5).

## Cost Sharing Formula

As to cost sharing, an equitable formula needs to be developed whereby major grain importers, particularly the affluent countries such as Japan and the Western European countries, and major grain exporters other than the United States, notably Canada and Australia, pay a substantial share — say 50 percent — of the total cost of such reserves. If major importers (for instance, the USSR) are unwilling to participate in the cost (and information) sharing aspects then they should not share in the beneficial aspects, such as access to reserve stocks. Special means must be found to help the poorer developing countries, such as India or Bangladesh, to hold larger reserves. This might be done partly through a more assured supply through our PL 480 food aid program than has been the case for the past three years, when the program has dropped to half of prior average levels and much of that has been allotted according to political criteria rather than actual needs.

Some may argue that importers alone should bear the costs of food reserves (some of which will be recouped through selling stocks when prices are high and replenishing when prices are low). But this would leave the United States without means of influencing a reserve system of vital importance to its farmers, its balance of payments — and its price index — and would encourage importing nations to develop alternate means of supply in other countries.

Finally, farmers everywhere need assurance that grain reserves will not be used unfairly to their detriment. This means not only an assurance that reserve stocks will not be sold at too low a price but a clear understanding as to the rules under which these reserves can — and cannot — be used, to avoid unduly jeopardizing the farmer and his investment. The fact that the World Food Council proposal calls for a world system of national food reserves, managed according to internationally agreed upon rules, should serve to ease the fears of many farmers that the urban-dominated legislatures will use food reserves arbitrarily against their interests.

As noted earlier, food reserves contribute importantly to maintaining grain prices in years of production above immediate consumption needs. This is a far more effective way of maintaining farm income than through payments to idle million of acres of productive American land. And it does not jeopardize the global economy and the lives of millions when the next production downswing occurs.

## Conclusion

A world food reserve system and its associated undertakings will not be easily negotiated, but it can be if the will is there, particularly in the United States. It is worth noting that the International Energy Agreement was negotiated and established in less than a year. After the World Food Conference, the dozen nations, including the USSR, charged with developing a world food reserve held their initial meeting on February 10 and 11, 1975 and further meetings have followed. A successful agreement before the end of 1975 is not out of the question if the United States pursues the negotiations in a determined manner. The world is at the start of a new era of higher prices and chronically tight food supply. Unless the American farmer continues to produce food for himself and for scores of others, there is no hope of solving the immediate problem. The farmer should not be portrayed as the villain of the piece, insisting on exorbitant prices in times of need, nor should he become a victim of depressed prices. A well-managed world food reserve can avoid both dangers by making global food supply work better while encouraging greater food production worldwide.

## References

1. U.S. Representative Paul Findley (Illinois). 1975. Statement delivered at the Second Annual Springfield World Affairs Conference, Springfield, Illinois, February 14, 1975.
2. United Nations World Food Conference. 1974. *Assessment of the World Food Situation: Present and Future*. U.N. Doc. E/CONF. 65/3, p. 693. United Nations, Rome.
3. National Academy of Sciences, Committee on Agricultural Production Efficiency. 1975. *Agricultural Production Efficiency*, pp. 1-19. National Academy of Sciences, Washington, D.C.
4. Brown, L. R., and E. P. Eckholm. 1974. *By Bread Alone*, p. 213. Praeger Publishers, Inc., for the Overseas Development Council, New York.
5. United Nations Food and Agriculture Organization. 1974. *World Food Situation: Evaluation of World Cereals Study Situation*, F. 11. Sanderson. "The Great Food Fumble." *Science*, 188 (4188): 507.