Letter to the editor

Famines: the Bowbrick–Sen dispute and some related issues

'Throw your misteemper’d weapons to the ground.'
Romeo and Juliet, Act I, Scene 1

'Seal up the mouth of outrage for a while,
Till we can clear these ambiguities,
And know their spring, their head, their true descent.'
Romeo and Juliet, Act V, Scene 3

Sir/Madam: It is perhaps presumptuous for me to expect to be as successful as the Prince of Verona. In any case, he finally admits that he is partly to blame for the troubles he has witnessed.

Whatever else may be said, the controversy between Mr Bowbrick and Professor Sen in the last issue of Food Policy does not lack an element of excitement. In this clash over the interpretations of famines in general and of the 1943 Bengal Famine in particular, there cannot be much doubt that in the verbal fisticuffs Professor Sen is a clear winner.

I started with some considerable sympathy for Professor Sen. Mr Bowbrick’s earlier paper on this subject to the Agricultural Economics Society, and for all I know that to the Development Studies Association Conference (p126, Ref 4), should certainly have been formulated less aggressively. And Professor Sen is justified in complaining that the Food Policy critique contains some errors of attribution, as well as points which might have been better phrased.1 Yet, after the semantico whirlwind of an 'affluent combination of conceptual confusions, empirical misstatements and systematic misrepresentations' and other such items, as well as the failure to note and answer many of Mr Bowbrick’s more important points, I regret that the Drummond Professor could not have found a more generous manner of reply.

This comment does not intend to pick up every point and counterpoint, which would only generate more contention and confusion than it may in any case produce. It takes up certain critical issues to argue that there is much of substance in Mr Bowbrick’s analysis. However, a few minutiae may be in order first.

1) There is nothing of ‘a hint of battiness’ in attributing Professor Sen’s theory ‘to periods earlier than its publication’ (p125). This is a perfectly orthodox means of categorization.

2) Mr Bowbrick’s discussion is ‘rendered rather chaotic by his persistent confusion between 1) availability decline over time, and 2) supply inadequacy and shortage at a point of time’ (p126). I do not find this persistency.

3) Mr Bowbrick is accused of suppressing the context of some of the Famine Inquiry Commission evidence, sure in his ‘faith in the gullibility of the reader’ (p128). Later, I shall support Mr Bowbrick’s view that Professor Sen’s reference to the work of Professor G. Blyn misleads the reader. But this is an inadvertent error, a fallibility which he might allow for his opponent.

4) Developing this last criticism, Professor Sen states that the error ‘provides Bowbrick’s basis for rejecting both the official estimate of food production and the Famine Inquiry Commission’s own adjusted figures’ (p128). This is totally unfair. It is a rather small part of a much more detailed argument, as will be illustrated by some of Mr Bowbrick’s material specified later.

5) Professor Sen states that ‘in arguing against my view that the Bengali Famine was related to the “uneven expansion of purchasing power”, Mr Bowbrick begins by taking, out of context, an illustrative example... to outline the general nature of the conflict (which can be between one group of the poor against another) involved in a famine boom. Since I had made the general remark that “something of this nature happened in the economy of Bengal in 1943”, Mr Bowbrick promptly takes the illustrative figure to be exactly those of Bengal in 1943’ (p130). If the reader will check the quotation, given on p117, he may feel that the ‘general remark’ was something more, the punch-line, and that it could reasonably be interpreted as signifying that something close to the specified magnitudes applied to Bengal. Yes, Mr Bowbrick should have qualified his calculation, but he was entitled to believe that the detailed example was meant to be near reality – the ‘poor section’ being, say, somewhere between 16% and 24% of the total population, instead of the 20% he used. On this basis his calculation would have constituted a forceful point, and not much different from that shown on p117.3

Sen’s attitude to FAD

I have not read the full set of documents which Mr Bowbrick claims show Professor Sen’s ‘scathing’ attitude to those who emphasize sudden food availability decline (FAD). But on the basis of the leading item, Poverty and Famines, and a 1981 Quarterly Journal of Economics article,4 Professor Sen gives short shrift and is not exactly complimentary:

• ‘[If] the approach of entitlements . . . appears odd and unusual, this can be because of the hold of the tradition of thinking in terms of what exists rather than in terms of who can command what. The mesmerizing simplicity of focusing on the ratio of food to population has persistently played an obscuring role over centuries, and continues to plague policy discussions today much as it has deranged anti-famine policies in the past’ (Poverty and Famines, p8).

• ‘The FAD approach gives little clue to the causal mechanism of starvation, since it does not go into the relationship of people to food. Whatever may be the oracular power of the FAD view, it is certainly Delphic in its reticence’ (Poverty and Famines, p154).

• The critical FAD-ist concern over

FOOD POLICY August 1986 259
possibly extremely low food stocks prior to the December 1942 harvest in Bengal gets half a page in Poverty and Famine. That may (or may not) suffice, but it deserves a better title than the dismissive ‘The so-called “carry-over” of old rice’ (Poverty and Famine, p62).

Still on Bengal, when the time came to report the famine and assess what had happened, the Famine Inquiry Commission also adopted FAD as its main approach... The occurrence of the famine was squared with production and trade figures by assuming a sharp decline of that mysterious – and unobserved – “carry-over from previous years”. Like the Phoenix, the FAD theory arose rejuvenated from the ashes, and it can be found today chirping in the current literature on the food crisis of the world, even making occasional references to the Bengal Famine, “when floods destroyed the rice crop, costing some 2 million to 4 million lives”* (Poverty and Famine, p83).5

The general review of FAD thinking in the reprinted article is too short at less than one page and, as will be argued below, insufficiently representative.

These quotations and references fully cover the two sources Professor Sen’s general view of FAD thinking. Hardly ‘scathing’, but when seen in their general context and against the accompanying empirical emphasis of his case studies they are something more than just the treachant use of a forceful pen.

Extreme and moderate FAD

Shlomo Reutlinger of the World Bank has said that Professor Sen ‘has overreacted to the excesses of those who hold that famines are caused by a food availability decline’.3 Part of the problem is that Professor Sen seems not to have cast his net widely enough and has caught virtually none but the extremists.

His bibliographies contain the names of many writers in the 1970s whom he would consider FAD-ists, such as the Ehrlichs (distinct extremists). But he quotes none in Poverty and Famine, and in his article cited above he takes from only two books, one by René Dumont and one by Brown and Eckholm. Dumont was an eminent French agronomist. Brown and Eckholm were not, I think, economists. These, like many others who wrote from outside economics, provided the FAD-extremists.7

I do not know by any means the work of all those commentators on his drafts that Professor Sen mentions, eg in Poverty and Famine, p27. But those I recognize were at the time either generalists on development, entitlement oriented in their interest in the rural sector, or population specialists. Those with some concern for FAD-ism’s contribution were Mohiuddin Alamgir and, I assume, Roger Hay. However, clearly missing are ‘old line’ agricultural economists who had been involved in the nitty-gritty of the workings of the price mechanism in agriculture.

In 1974–76 there was a strong emphasis among many economists on FAD – for the very good reason of the well known decline in global food supplies available to the Third World in 1972–75. Let it be conceded that for the time being many of us had forgotten the ‘entitlement issues’, or at any rate had pushed them well into the background in the face of other preoccupations. But, I doubt whether that carried beyond 1977. If nothing else, we had Radha Sinha and Keith Griffin to keep us up to scratch, as well as various radical political scientists.

It is highly speculative, and possibly self-serving, to guess today what might have emerged if Professor Sen had sought out non-extreme FAD-ism among economists more than he appears to have done, especially as our present judgments have been much stimulated by his own work, particularly its climax in Poverty and Famine, and for me at least by the present controversy.

However, it is likely that a successful hunt would have produced two ideas quickly.

One: there would have been a plea for the greater historical perspective which Shlomo Reutlinger sees as missing.4 If nothing else, there would have been the suggestion that inclusion of the distinctly, but of course not completely, FAD Irish famine of the 1840s as well as some of the pre-1943 famines in the Indian subcontinent – the latter coming from the evident stimulus to re-read that major study by B.M. Bhatia9 – the Soviet famine and possibly some of the pre-1939 Chinese experience in which there were FAD elements.

Two: Bhatia most likely would have set some other bells ringing:

A part of the crop raised by the agriculturist is retained by him for self-consumption. It has been estimated that before the War, half of Bengal’s annual output of rice was retained by the producers and the other half found its way to the market. The marketable surplus was, however, a highly elastic quantity for, as is to be expected under the circumstances, the subsistence farmer will retain more if by selling a smaller quantity he could get sufficient cash to discharge his fixed money obligations of rent, moneylender’s charges, etc (Famines in India, p320).

This notion of producers’ reservation demand resulting in a marketed supply less elastic than produced supply was well established by 1945-50.10 It is highly likely that the Bhatia statement would have produced a response making clear that a FAD element on economists’ thinking incorporated both marketed and produced supply, thereby greatly strengthening its conceptual and empirical values.

Professor Sen refers to the proposal of M. Alamgir to modify FAD by identifying marketed supply as a distinct variable, but rejects it by insisting on using ‘availability’ as conventionally defined (eg as used in Malthus’s analysis), viz., total available supply.11 Professor Sen is denying a concept which would be well understood by many work-a-day economists sympathetic to ‘sensible’ FAD-ism in the late 1970s.

FAD is not explored sufficiently by Professor Sen. The complaint should be ‘scant’ rather than Mr Bowbrick’s ‘scathing’.

Food supply/demand balance

The degree of reliability of the food production statistics and the
availability, as 'a reasonable way of looking at the carry-over problem in the absence of direct information' (Poverty and Famine, p.52). He now says that he does not believe that moving averages analysis is a good method of dealing with carryovers in all contexts (p.129). It is never admissible unless one can be confident that the implicit assumptions about changes in stocks are economically unimportant. Even quite small changes can be critical for an economy at the margin of bare subsistence.

Professor Sen has not avoided the stock problem, but his view on it is implicit. He calculates an index of foodgrain availability (shown on a per capita basis) from one for total supplies. He is either assuming that within each year the annual totals are the same, i.e., zero carryover as Mr Bowbrick suggests, or that they differ from each other year by year by some unchanging and unanalysed proportion, which seems more likely.

Mr Bowbrick's attempt to set out a demand-supply balance sheet embodying Professor Sen's production data is entirely in order. He has, of course, made life more difficult for himself. 1) His 'arbitrary assumption' on opening stocks in 1939 was meant, I suspect, as a level which seemed reasonable in the light of the apparent demand-supply conditions at the time. If so, he has a tenable position. 2) Somewhat more 'imagination' might have been introduced into the consumption assumptions, particularly by showing a substantial fall for 1943. Some short-term positive association with changes in current production probably should be incorporated for other years. 3) This adjustment would have avoided the strange negative carryover in November 1943.

However, the most critical issue would be the size of the fall in inventory from 1939 to 1943, given a tenable view on consumption, which would be independent of the assumed opening level of stocks.

Obviously, there is enormous conjecture in this approach, but at least it is out in the open. Professor Sen's approach may be closer to or further from the mark, but the problem is out of sight. If Professor Sen cannot produce a reasonably confident statistical statement as comprehensive as Mr Bowbrick's Table 1, he cannot make his case.

In this section of the controversy, Mr Bowbrick has demonstrated the weak foundations on which Professor Sen has built his statistical analysis of supply. He has convinced me at least that there is no way forward from Table 6.2 in Poverty and Famine, which is critical for Professor Sen. The production statistics of the Famine Commission seem much too unreliable, and there are no others.

Unreliable statistics

'Mr Bowbrick is always rejecting statistics on grounds of their reliability . . . . in favour of no statistics at all' (pp.131-32). Mr Bowbrick is not quite so extreme, but his attitude is fundamentally correct. What is the use of statistical data if they are too unreliable to be used with any confidence? We have two approaches left. Standard economic analysis: obviously, we can extend the use of the time-honoured techniques of analysis, bringing together whatever separate pieces of reasonably reliable information (qualitative or numerical), with theory as the link between these various stepping stones and as the test of the plausibility of the analysis and of its empirical content. Here Mr Bowbrick has pointed to two useful extensions of Professor Sen's work.

1) His section on speculation, elaborating his Figures 3 and 4, demonstrates that price experience should be examined for any implications regarding the importance of FAD relative to speculation by traders or households. The less the role of FAD and the greater that of speculation the sooner prices should break as 'profit taking' begins and hoarders see the opportunity to reduce idle balances.

2) Whether or not Mr Bowbrick is abusing Professor Sen's 'illustrative example' on the poorest 20% of the population, discussed above, he is at least attempting a necessary step in his section on 'uneven expansion of purchasing power', i.e., testing whether or not the demand forces which Professor Sen emphasizes could be a sufficiently powerful reinforcement of other non-FAD influences to explain the price experience without resorting to FAD.

There was a fivefold increase in rice prices, if we are to believe the data, between December 1941 and mid-1943. Intuitively, this change seems to require some very exceptional speculation and demand elasticities if FAD is unimportant.

Some non-standard analysis: there is only one way which might offer some hope of resolving the disagreement over the respective role of FAD and the effective demand components of the entitlement approach, namely a simulation model of the Bengal economy in 1942 with sufficient structural and parametric variables to provide adequate, comprehensive permutations of their values to test the plausibility of alternative theories. In this way some insights might be obtained with the use of data which some would consider much too uncertain to support a single econometric model. This may, for all I know, be under way already. Others are much more qualified than I to comment further.

A small concession from Sen?

When Professor Sen originally prepared Poverty and Famine there was insufficient information to incorporate the 1959-61 food crisis in China in the analysis. Yet in 1982 it could be said:

'It is now clear that China suffered a famine which can only be described as a very large famine during 1959 to 1961. [Estimates] yield remarkably high figures of extra mortality over the food-shortage years . . . . The scale of the Chinese food-shortage-mortality must be seen to be much larger than the largest famine in India in the last century, which occurred before independence . . . . It is not difficult to explain why food output was so low in China during the period 1959 to 1961 but that in itself cannot explain the famine itself. Why did not the Chinese government import more food? Why did it not organize more redistribution between the different regions in the country . . . ? Could there not have been a better rationing system . . . ? In tackling these questions we have to look at the prevailing political beliefs and dogmas and we have to look also at the nature of political organization and news-distribution systems in China.

Is this evidence for the significance of
FAD?; or an extension of the mechanics of entitlements?; or some of both? It is certainly evidence of Professor Sen, in a stimulating paper which should be more widely known. 22 His aim is to widen perceptions on entitlements, but FAD has also slipped in without any way weakening his main argument. Yet, Professor Sen's latest statements show no change in his fundamental position as set out in Poverty and Famines. 23 Mr Bowbrick's view that Professor Sen's theory can lead to famines by causing governments and their officials to neglect the impact of FAD is overdone, not only in manner of expression, but also in implication. There are famines where preoccupation with FAD could lead to a much more serious neglect of entitlements. But there is some truth that, in general, to err by overestimating FAD will lead to less harm than an assessment which overstates the entitlement component. Economic analysis designed to influence the real world must try to mitigate the consequences of its misunderstanding and misapplication.

Many readers of Poverty and Famines, not only Mr Bowbrick, have come away feeling that Professor Sen virtually rules out FAD effects. That is the tone of the book. Without abandoning his basic position, could he not in future emphasize that there might be a FAD issue in any famine and that care must be taken in this respect?

Mr Bowbrick's article is unlikely to undermine the fundamental part which Professor Sen played in our understanding of famines. But, warts and all, it makes its own significant contribution, and I hope that other readers will find it as usefully stimulating as my offering is intended to show.

George Allen
Barnstaple
Devon, UK

1Respective examples being: 'Unlike Sen, I consider that one cannot discuss famines without constantly taking into account aggregate food supply' (p106), and the title to Mr Bowbrick's Figure 4, 'Expected price if there was no shortage and excessive speculation (Sen's hypothesis)' (p119).

2In exactly the same way as one might claim to find Keynesian ideas in the writings of a few of the early nineteenth century monetary writers (eg Henry Thornton). The issue would be the accuracy of the diagnosis, not one's mental state. 3Unless the reader can infer that the numerical component is somewhere near reality, he has no means of judging the practical significance Sen's general argument.


7Even where, as with Dumont, they were extremely sensitive to the needs for reforms to improve what Professor Sen came to call 'entitlements'. See Rene Dumont and Bernard Rosier, Nous Alions a la Famine, 1966, republished in translation as The Hungry Future, Andre Deutsch, 1969.

8Reutlinger, op cit, Ref 6.


10The starting point would be J.R. Hicks, Value and Capital, Oxford University Press, Oxford, UK, 1939, Figure 9, or even the now very basic concepts in the late Lord Robbin's Elasticity of Demand for Income in Terms of Effort, Economica, 1930. On the applied side, for example and if memory serves, there were in these earlier post-war years some studies by French economists of the behaviour of 'autoconsumption' among the French peasantry, perhaps in part stimulated by the problems of securing marketed supplies in war-time.

11Poverty and Famines, Ref 15, p63. Is it only Professor Sen that is allowed to introduce additional analytical concepts? (Professor Sen is discussing a 1980 manuscript, Famines in South Asia - Political Economy of Mass Starvation in Bangladesh. I do not know how this corresponds to M. Amagl's more comprehensive Famines in South Asia, published as a book in 1980.

12While indeed being 'among recent publications' (1966), Professor Blym's work was much more dated. It was a PhD thesis based on study in the late 1940s and early 1950s, and as such was used by others around 1956–58, eg S.J. Patel, publishing in January 1956. See Bhatia, op cit, Ref 9, p311.

13G.R. Allen, Agricultural Marketing Policies, pp164–166, covering crop yield estimates and wool grading in the UK and livestock grading in the USA. This bias reflects a natural tendency for most people generally to avoid extremes, or to be unwilling to accept extremes, in many business situations.

14The six years may over represent the influence of severely poor crops. If so, the trend might be put at around 15.5%, weakening but not destroying the argument.

22Although Mr Bowbrick does not develop such an argument, although he could have done so had he been inclined to accept the opinion of one of the Commission members, Mr M. Afzal Hussain. See Poverty and Famines, p62 for Hussain's (apparently minority) view that 'a carry-over in the sense of surplus over consumption must have vanished years ago.

24Perhaps I should take any blame. My suggestion has started Mr Bowbrick down this particular 'path of dalliance'.

25But removing 'Sen hypothesis' from the second title.

26Assuming the data is reliable enough for the task.

27It all might work out if there was strong reserve demand by farm families, giving a backward sloping marketed supply curve as their terms of trade improved. But, as already noted, this is FAD with a vengeance. Should we say that the entitlement of the farm family sector had improved? But that, I think, would be perverse, and not what Professor Sen intended.

28It would be interesting to know how far Mao's policy of 'draining the fishpond' reflected the belief that there was just about enough food to get by. To the extent that it was, the neglect of FAD is clear.


George Allen held posts at Oxford University from 1948–64, mostly as a University Lecturer in Agricultural Economics and Fellow in Social Studies at St Edmund Hall, where he is now an Emeritus Fellow. From 1971–76 he was Professor of Agricultural Economics at the University of Aberdeen. In the intervening period he was in New York with a US corporation with large agribusiness interests. Since 1976 he has done some teaching at the Agricultural Economics Institute, Oxford, but mostly has been a private consultant for agribusiness and UN organisations, for the latter often in or with regard to South East Asia. He is a recent President of the Agricultural Economics Society. He may be contacted at West Woodlands, Newton Tracey, Barnstaple, EX31 3PP, UK (Tel: 027 185 420).