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AD HOC CONSULTATION ON WORLD FOOD SECURITY

Rome, 19 - 23 May 1975

REPORT OF THE EXPERT CONSULTATION ON CEREAL STOCK POLICIES RELATING TO WORLD FOOD SECURITY

The attached report has been prepared for submission to the Fiftieth Session of the Committee on Commodity Problems and, as agreed by the CCP, for transmittal to all member governments of FAO and of the United Nations. It is presented for information and for comments to the Ad Hoc Consultation on World Food Security.

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REPORT

of the

EXPERT CONSULTATION ON CEREAL STOCK POLICIES RELATING TO WORLD FOOD SECURITY

to the

COMMITTEE ON COMMODITY PROBLEMS

Rome, 24-28 February 1975

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME

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EXPERT CONSULTATION ON CEREAL STOCK POLICIES RELATING TO WORLD FOOD SECURITY

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I. ORGANIZATIONAL ARRANGEMENTS

1. The Expert Consultation on Cereal Stock Policies Relating to World Food Security was held at FAO Headquarters, Rome, from 24 to 28 February 1975. The Governments of Argentina, Australia, Brazil, Canada, Egypt, France, Hungary, India, Indonesia, Japan, Kenya, Morocco, Netherlands, Pakistan, Peru, Poland, Sweden, Switzerland, Thailand, Turkey, United Kingdom and United States, and the EEC and the International Wheat Council, were invited to nominate experts. Consequently, twenty-four experts took part in the meeting (Annex A). 1/ The meeting was opened by Dr. E.M. Ojala, Assistant Director-General, Economic and Social Policy Department of FAO. Mr. A.G. Leeks, Chief, Basic Foodstuffs Service, Commodities and Trade Division, FAO, was elected as Chairman. Mr. B.P. Dutia, Senior Commodity Specialist, FAO, acted as Secretary of the Expert Consultation.

2. The Expert Consultation was held on the proposal of the Ad Hoc Working Party on World Food Security, as endorsed by the FAO Council and the Committee on Commodity Problems. It aimed at an exchange of views on a number of practical problems relating to world food security, with the intent of providing practical guidance which could be taken into account by countries in formulating their national stock policies for the purpose of world food security. The link between stock policies and price stabilization was recognized both in respect of national and international aspects. The main purpose was to examine the technical and practical aspects of these problems, and to facilitate, but not duplicate, any discussions or future negotiations on these topics.

3. All the experts participated in their personal capacity and not as representatives of governments or of their respective organizations. It was understood that the views expressed in this report might not reflect the positions of governments and that governments were not committed by them.

4. The main discussion during the Expert Consultation was centred on the following topics, on the basis of the papers which the experts were invited to submit:

(i) Methods of assessing the desirable size of stocks for food security and ways of sharing the cost burden between countries.

(ii) Ways of regulating the effects on commercial markets and prices of national stock policies formulated in the context of world food security.

(iii) Ways of balancing the costs of national or regional stocks against the benefits of full or partial insurance in the event of domestic crop failure or other contingencies.

(iv) Criteria for the size and release of separate national emergency stocks for local and/or international relief, including the possibilities of segregating such stocks from commercial markets.

1/ Participants included experts from Argentina, Australia, Canada, Egypt, France, Hungary, India, Indonesia, Japan, Morocco, Netherlands, Poland, Sweden, Switzerland, United Kingdom, United States, the EEC and the International Wheat Council.

(v) Alternative means by which governments (not holding their own stocks) can encourage private stockholders to meet the official objectives of national stock policies.

(vi) Desirable main elements to be contained or considered in a "model" national stock policy for cereals, compatible with the objectives of world food security, taking account of different types of situations existing in different regions.

A list of documents is attached as Annex B. Summaries of the papers prepared for consideration by the Expert Consultation are in Annexes C to K.

5. As agreed by the CCP, copies of this report will be transmitted for information to all member countries of FAO and/or the United Nations. It will also be submitted to the Committee on Commodity Problems, and the main findings will be reported to the Ad Hoc Consultation on World Food Security in May 1975. The experts also agreed that it would be useful to transmit copies to the International Wheat Council.

II. CONCEPTS AND DEFINITIONS

6. Before discussing the specific topics under review, the Expert Consultation had a general discussion of concepts and definitions based on a note prepared by the Secretariat (doc. ESC: CSP/75/7).

7. The objective of world food security (as formulated in the text of the International Undertaking) is to ensure to the utmost "the availability at all times of adequate world supplies of basic foodstuffs, primarily cereals, so as to avoid acute food shortages in the event of widespread crop failures or natural disasters, sustain a steady expansion of production, and reduce fluctuations in production and prices".

8. The Expert Consultation adopted for its discussion a broad concept of food security and accepted that reserve stocks would be held for multiple inter-related purposes. The best basis for food security would be a well-balanced world grains economy. This would imply an orderly and coordinated system of production, stable prices and adequate stocks.

9. The need to distinguish precisely between "working stocks" and "reserve stocks" was recognized. In this connection, working stocks were considered to be those stocks required to assure a smooth and uninterrupted flow of current supplies from the farmer or point of import to the processor and ultimately the consumer. In producing countries, they normally reach their minimum level at the end of the crop season when they would include at least the quantities required to ensure continuity of supplies to the market (domestic and export, if any), considering the time required for the new crop to reach the market as well as the possibility of a delay in the new harvest. In countries which depend mainly on imports, working stocks would vary less, and would include at least the quantities required to ensure continuity of supplies considering the time required for the arrival of new shipments and their possible delay. Working stocks would also include, at any point of time, the quantities in transit, or afloat, as well as those held by retailers and consumers (pipeline stocks), although these quantities are generally not included in stock surveys and, thus, not in the stock figures reported by governments.

10. Reserve stocks were considered for this purpose to be all stocks in a country in excess of (1) minimum working stocks and (2) stocks which are retained only for strict strategic or military purposes. Reserve stocks include stocks which can be drawn on to meet unexpected deficits in current supplies due to crop shortfalls, other contingencies, emergency food shortages or forward international commitments in case of a short crop.

11. There were some difficulties in estimating working stocks. In the calculation of the working stocks, farm stocks should be included when they were normally accessible and were possible to estimate. Private trade stocks should also be included whenever possible. It may not be possible to identify supplies in transit as sometimes their destinations are unknown. The special problems of defining working stocks in developing countries were recognized. There were difficulties in drawing a clear-cut line between working stocks and reserve stocks, especially as in certain circumstances working stocks might be drawn on to meet emergency situations.

12. The concept of stock had a dynamic element inherent in it, as the size of the working stock would vary as the crop year progressed or the stocks were drawn upon. For the purposes of compilation of data and comparative analysis of stock

levels from year to year, it would be necessary to relate them to a specific point in time during the crop year; stocks at the end of the respective crop seasons in each country, i.e. "carryover stocks", would be appropriate reference points for measuring changes in total stocks from year to year. It was recognized that carryover stocks did not necessarily represent in all cases quantities available for export.

13. Stress was laid on the need for developing a clear and common understanding on definitions of "working stocks" and "reserve stocks". This would greatly facilitate consultations on food security and related matters and also provide a common basis for the implementation of the Undertaking. It would, further, permit the compilation of data and information on stocks in different countries on a comparable basis, and thus make it possible to evaluate their size and trends in a meaningful way.

III. METHODS OF ASSESSING THE DESIRABLE SIZE OF STOCKS FOR FOOD SECURITY AND WAYS OF SHARING THE COST BURDEN BETWEEN COUNTRIES

14. This topic was examined in the light of a paper prepared by Mr. N. O'Connell (Canada) in which criteria and methods for assessment of levels and categories of stocks were discussed, and possible ways of sharing the cost of carrying reserve stocks between countries were indicated. The relevant sections of a report prepared by a team of FAO consultants were also taken into account. 1/

Size of stocks

(a) National stocks

15. It was recognized by the Expert Consultation that the desirable stock 2/ levels for a country would depend on a complex of interrelated factors, including the objectives sought to be achieved, the degree of protection aimed at, the context in which the stocks are to be operated, the alternative means of achieving the objectives, its position as an exporting or an importing country, its stage of economic development as well as its judgement of the expected costs and benefits of stockholding in the light of its own economic and social circumstances.

16. Objectives of a stock policy in the context of food security could include:

- ensuring that domestic requirements are covered;
- facilitating the servicing of regular commercial markets;
- facilitating the meeting of potential additional market opportunities;
- ensuring that aid undertakings were met;
- covering the transitional period between two crop periods;
- covering the strategic requirements; and
- regulating prices or supplies.

Keeping in view the objectives it aimed to achieve, each country could be expected to assess the desirable size of its stocks with reference to certain criteria. The aim should be to maintain stocks at levels that were considered necessary for ensuring continuity of supplies at stable and reasonable prices, including provision for emergency situations.

17. One of the key factors would usually be the year-to-year variability in cereals production, although several other factors would need to be taken into account, including those stated in the "guidelines" for establishing and holding stocks in paragraph 5 of the International Undertaking.

18. It was suggested that it would be useful to develop a system including objective standard procedures, with reference to which individual countries could formulate their desirable national stock targets or objectives.

1/ "Food Reserve Policies for World Food Security", an FAO consultant report by Jimmye Hillman, Gale Johnson and Roger Gray. A summary of this report is given in Annex L.

2/ The term "stocks" means the supply of cereals carried over in stock at the end of the marketing year of the country concerned.

(b) Global level of stocks

19. As regards the assessment of the desirable size of stocks at the global level for world food security, two approaches were considered:

(i) One approach would be for each country to formulate its own stock target individually as a first step in an iterative process; individual country targets would subsequently be summed up to an aggregate global level, the adequacy or inadequacy of which could then be judged through international consultations. This would preferably be on the basis of an agreed system of evaluation, in the light of which individual countries might revise or adjust their initial targets as necessary to achieve the commonly agreed objectives of world food security.

(ii) The other approach would be to first reach a consensus on an "optimum" world level of stocks required for food security, which could then be taken as a basis for determining, or adjusting, stock targets for individual countries.

20. Neither of these approaches was considered entirely satisfactory on its own. Further study and negotiations would be necessary to arrive at a solution.

21. In judging the adequacy of the aggregate global stock level, one of the factors to be taken into account would be its accessibility as determined by the location of national reserves: inasmuch as the reserves held by exporting countries would be more accessible to the world market than those held by importing countries, the greater the reserves held by exporting countries, the smaller the aggregate reserves would need to be, and vice versa. Some experts considered that stocks held for emergency purposes should be located in areas where they were likely to be needed (see para. 48 in Section VI).

22. As regards the methods for assessing desirable stock levels in aggregate, reference was made to the three methods used by the FAO Secretariat in their earlier study on evaluation of stock levels. 1/ Of these methods, it was felt that the method "A" which measured deviations in trends of area, yield and domestic consumption had advantages as it brought together production and consumption trends. On the other hand, this method had the disadvantage of isolating trends in world production and consumption from prices and did not reflect the type of adjustments made in practice and the costs of these. Ideally it was desirable to develop a method which would facilitate the evaluation of costs and benefits of holding stocks at different levels.

23. The system of allowing individual countries to estimate their own stock levels suffered from the difficulty that countries may initially understate estimates as a starting point for negotiations. This could be minimized to the extent that the suggestion of paragraph 18 was adopted and all countries had an opportunity to scrutinize the estimates of other countries.

1/ FAO document CCP: GR 74/11, Annex A, paragraphs 9 - 39.

24. Criteria for the assessment of the desirable size of stocks held for commercial purposes and those held for international emergency relief would need to take into account the context in which they are held, including their possible effects on the market and the appropriate safeguards that might be necessary, particularly in the case of developing countries. If reserves were to be held in the context of an international price stabilization agreement, not only their accumulation and release would have to be related to the agreed price triggers but also their size would have to be determined according to the agreed price objectives. This was a more complex issue which would require negotiations among the main interested countries.

25. On the contrary, the desirable size of reserves held for emergency purposes would depend on the need for safeguarding food supplies to developing countries in situations of crop failure. A simple dichotomy between the commercial and emergency purposes of the reserve had a certain operational significance, although the criteria for determining the desirable size of reserves for emergency purposes would need to be evolved.

Cost sharing

26. If each country were to fix its own national target, it could result in a certain pattern of cost sharing, on the principle that each country would bear the responsibility for financing its own stocks. If the optimum global target were to be higher than the sum total of the individual national targets so fixed, it would require sharing of the costs for the additional quantity of stocks to be held. Further study and negotiations would be required to agree on a pattern of cost sharing acceptable to all participating countries in such a case.

27. A formula for cost sharing could be based on:

(i) GDP or GDP per caput (stocks would be financed by those countries in the best economic and financial position to do so);

(ii) the variability in production (countries most vulnerable to production fluctuations make larger demands on the world's reserves; however, this would not accommodate satisfactorily countries which were major importers but where domestic production is minimal);

(iii) relative shares in world grain production;

(iv) relative consumption levels of cereals (this tends to limit the share of certain exporting countries and increase the share of some importing countries);

(v) importance of countries in world cereals trade; or

(vi) some weighted combination of all or some of such criteria.

28. Special consideration would need to be given to developing countries which cannot afford to build up adequate stocks because of acute balance of payments difficulties, domestic production deficits, and other difficulties confronted by them. As recognized in para. 6 of the Undertaking, this places "an added responsibility" on the rest of the world community for ensuring world food security.

This might be reflected in two ways:

(i) The rest of the world would hold larger stocks to compensate for inadequate stocks held in developing countries.

(ii) Developed countries and other potential contributors would need to provide additional assistance to help developing countries meet their stock targets, and related facilities.

29. In practice, the pattern of cost sharing, although likely to be related to some of these criteria, would in the final analysis have to be determined through negotiations among the participating countries.

IV. WAYS OF REGULATING THE EFFECTS ON COMMERCIAL MARKETS AND PRICES OF NATIONAL STOCK POLICIES FORMULATED IN THE CONTEXT OF WORLD FOOD SECURITY

30. The Expert Consultation discussed this topic on the basis of the papers prepared by Mr. D.J.C. Meeuws (Netherlands) and Mr. K.L. Neeley (United States). Mr. Meeuw's paper reviewed the internal measures to be taken by countries in various trading situations to minimize market disturbances arising from the accumulation or release of stocks, as well as action at the national level to avoid international repercussions. Mr. Neeley's paper considered ways of co-ordinating national actions towards stocks, and discussed the advantages and disadvantages of adopting either a price or a quantitative change as a guideline for the accumulation and release of stocks.

31. The Expert Consultation also examined the suggestions made in the paper prepared by the FAO Consultants.

32. The following general points were made during the course of the discussion:

(i) International rules or guidelines. There would be a need for such rules to govern the acquisition and release of reserve stocks, in order to avoid their possible adverse effects on commercial markets. This was deemed to be necessary also to avoid discouragement to production, especially in developing countries.

(a) Such rules should be clear, precise and obtained by an easily understood and accepted method of calculation.

(b) As the rules were to be applied to national reserve stocks, they would have to be sufficiently flexible to be adaptable to the different marketing and institutional mechanisms in different countries. On the one hand, they should allow the widest possible margin of flexibility in meeting agreed objectives and avoid excessively rigid controls, which experience suggested would be unworkable. On the other hand, they had to be sufficiently precise to avoid the system breaking down in periods of market stress, for example if and when a major surplus or deficit situation developed.

(c) The rules should be combined with a system of information, reporting and consultations to ensure they were enforced in a way appropriate to conditions.

(d) The participation of all the major grains producing, consuming and trading countries was essential if the rules were to operate effectively.

(e) Special consideration should be given to the interests of developing countries, many of which would require assistance to aid them to build up adequate stocks, storage capacity, handling, and related necessary infrastructure.

(f) The type of rules to be adopted would depend on the purposes for which the reserves were held, i.e. whether held for commercial purposes and/or for international emergency relief.

(ii) "Price indicator." The use of certain levels of international market prices as "indicators" to trigger the accumulation or release of stocks could make it possible to control the effects of national stock policies on commercial markets. As noted by the FAO consultants and pointed out by various experts, the prices criterion has the great advantage of being a readymade reflection of the supply/demand position, which is otherwise difficult to assess objectively. This approach would not in itself indicate the quantity of stock adjustment required, either globally or for an individual country; and its actual operation might involve a conflict between the reserve policies and the international price objectives of different countries concerned. Further, the fact that it has become increasingly difficult to evaluate prices on the international market could impair the dependability of prices themselves as a criterion for the annual adjustments to be made in the stocks for purposes of co-ordination between countries. The price criterion, therefore, would be insufficient by itself. The system employed should include other mechanisms for carrying out the quantitative adjustments to be made in stocks, either overall or in an individual country. Such a system could only be evolved through investigations and negotiations, and possibly by an international agreement.

(iii) "Quantitative indicator." Another possible criterion was to relate year-to-year stock changes to a "quantitative" indicator, such as the annual deviation of aggregate world crop production. The advantages of this approach included the fact that reliable systems of prompt reporting of crop production are already in place in nearly all major producing countries; and the determination of production trends are readily understood and accepted.

(iv) Maximum and minimum stocks. The desirability should be explored of setting agreed maximum and minimum levels for global and national stocks; the minimum stock would be to ensure minimum world food security, and the maximum level would indicate the need to reduce production in order to avoid the accumulation of surpluses. If such surplus stocks accumulate, a part of them could be used for meeting additional needs of developing countries through food aid programmes. In this case adequate safeguards should be provided in order to protect the interests of developing exporting countries.

(v) International emergency relief. Different kinds of criteria might be required for reserves used for international emergency relief. Releases from reserves for this purpose would be related directly to the existence of serious shortfalls in production or acute food shortages in developing countries, as indicated in Section III above.

(vi) Dual system. It might be desirable to evolve a dual system in which criteria of price and quantity are combined as criteria for the requisition and release of stocks. When reserves have fallen to certain minimum levels and assurance of sufficient physical availability of grains to maintain minimum world food security becomes doubtful, consultations will have to determine whether special policy action is required to meet the objectives of the International Undertaking.

V. WAYS OF BALANCING THE COSTS OF NATIONAL OR REGIONAL STOCKS AGAINST THE BENEFITS OF FULL OR PARTIAL INSURANCE IN THE EVENT OF DOMESTIC CROP FAILURE OR OTHER CONTINGENCIES

33. This topic was considered on the basis of the papers prepared by Mr. G.L. Miller (Australia) and Mr. Ram Saran (India). Mr. Miller's paper analysed various costs and benefits of stockholding in the context of a grain exporting country, and the possibilities of developing a conceptual framework. Mr. Ram Saran had examined the special context and problems of stockholding policies in developing importing countries and discussed, in addition to costs and benefits, various ways in which the cost burden of stockholding could be minimized.

34. During the discussion, it was recognized that the formulation of national stockholding policies would require an examination of costs and benefits of alternative stockholding strategies. This examination would need to be in a broad context, bearing in view the objectives of world food security, and within a framework of multiple objectives. Ideally, a method is needed that will allow the benefits to be related to the costs of stockholding, and for these costs in turn to be compared to the costs of achieving the same benefits by alternative means. The problem is complicated by the fact that many benefits (especially social and humanitarian benefits) are not measurable in monetary terms. Storage costs are direct and quantifiable, and the experts exchanged information on the current levels of carrying charges for grains in a number of countries. It was recognized, however, that cost estimates will vary widely depending on assumptions as to the price of grain, the rate of interest, extent of excess storage capacity, and other basic factors such as the length of the storage cycle. Nonetheless, estimated ranges of costs based on certain assumptions may be used as a benchmark against which policy makers could exercise judgement in deciding which objectives (or benefits) to pursue in the national stock policy.

35. A first step in developing a way of balancing the costs of national (or regional) stocks against the benefits is to identify the possible sources of benefits and costs.

Benefits

36. The principal economic and social benefits might be as follows:

(i) Assurance of food security. The fulfilment of assurance that national food consumption levels (possibly a basic guaranteed minimum per head) would be maintained at all times would result in nutritional, social and humanitarian benefits. In importing countries a reserve stock would ensure continuity of supplies and help provide timely relief to people affected by crop shortfalls.

(ii) Domestic economic and political stability. Since food is a basic and important item of daily consumption, and has a low price elasticity, countries may wish to hold stocks with a view not only to ensuring an adequate supply but also to maintaining a reasonable degree of price stability. Stockholding would also subserve other policy objectives, such as making food available to the vulnerable sections at reasonable cost, counteracting hoarding and profiteering, and containing inflationary pressures. Stability is important in terms of expanding agricultural output at the national level, and in promoting sustained investment and growth of the economy in general, particularly in developing countries. Further, food prices are often a very sensitive political issue and their stabilization at levels that appear reasonable to both producers and consumers would enhance

political stability. To the extent that this benefit could be obtained by other means, for example long-term contractual arrangements with reliable exporters, the cost of stockholding will have to be weighed against the cost of such alternative methods.

(iii) Financial gains from stockholding. An exporting country may tend to accumulate stocks in periods of ample supply and falling prices with the objective of releasing them as the market strengthens. However, it is difficult to predict the direction of price movements in commodity markets and the chances of price falls are normally approximately equal to the chances of price rises. The prospect of long-term increases in net revenue from these operations should therefore be regarded with some scepticism.

(iv) Goodwill in trading (for exporters). This is attained through maintaining a reputation as a reliable supplier. It entails long-term contracts and other commitments (including food aid pledges) being fulfilled even when domestic crop is short.

(v) World price stability. The existence of stocks could contribute to price stability in international grain markets. Availability of stocks within an importing country would avoid the need for rushing to the international market when supplies might be short and prices high. Also, in the absence of stocks an importer needing extraordinary supplies may drive up prices against itself on the world market. Conversely, in a bumper crop year, an exporter may depress prices against itself if no part of the crop is withheld from the market.

(vi) Trade liberalization. To the extent importers are assured of continuous supplies from world markets regardless of short-term crop fluctuations in exporting countries, they would be less likely to adopt autarchic policies to increase their own production at uneconomic cost.

Costs

37. The principal items of costs might be as follows:

(i) Investment costs of storage facilities. These are applicable only if additional storage capacity is required, i.e. if there is no excess capacity in existing storage facilities. Investment costs depend on the type of storage facilities used, which should be related to a country's circumstances.

(ii) Acquisition cost of grains (including foreign exchange outlay). This would depend on the prices prevailing at the time of the purchase of the grains. Importing developing countries often face considerable difficulties in acquiring grains for stockbuilding as they would need to increase their imports and use scarce foreign exchange resources.

(iii) Storage/carrying costs. These are basically dependent on the length of time stocks are held. They include costs relating to depreciation on facilities, maintenance, administration, loan amortization and the interest payable on the capital tied up in the stored grain, which is a reflection of the opportunity cost of storage.

(iv) Deterioration and loss of product. The possibility of quality deterioration and loss of the product during storage would add to the costs, especially in tropical regions.

(v) Price depressing effect. This cost could result from the mere existence of reserves, which may have an adverse psychological effect on the markets. It could be avoided if the programme successfully insulates the regular market from reserve stocks, but increased if any threatened large-scale uncoordinated release of such stocks overhangs the market.

Minimizing costs

38. Costs involved in any stockholding policy can be minimized in a number of ways.

(i) As the most important factor which influences the level of costs is the quantity of grain that is held in reserve, costs could be reduced by adopting a partial "insurance" scheme which would require a stock of smaller size; this would, however, also reduce the benefits.

(ii) The stocks required could also be smaller if they were held on a regional basis, since crop failures may not occur simultaneously in all countries concerned.

(iii) For developing countries which have to build up stocks through imports, supplies made available on special concessional terms would also help in reducing the cost burden.

(iv) Where stocks are built up from domestic purchases, the acquisition cost of grains could be reduced by following a system of dual pricing, whereby the government acquires a part of the supplies at fixed prices and the remaining part is allowed to be sold at market prices.

(v) Judicious purchases with reference to time and space could also reduce costs.

(vi) The relative economics of bulk storage and bagged storage, and the scale, type and location of storage facilities would also need to be investigated to ensure economies in storage costs.

(vii) As interest rate was the most important factor in the carrying cost of grains, the feasibility of international financial institutions providing the requisite funds to developing countries at concessional interest rates would need to be examined.

Full or partial insurance

39. It was noted that the full insurance would imply maintenance of consumption levels in all circumstances, i.e. 100 percent of all crop shortfalls would be covered. This would require very extensive stockholding, which might prove to be unreasonably costly. If the cost is considered too heavy in relation to the country's economic capacity, it may forego some of the benefits by opting for a partial insurance. A reserve stock in a partial insurance system, although helping to reduce excessive fluctuations in prices, would permit some price rise in years of crop shortfall. This would also enable the stockholding agency to make releases from the stock without incurring much financial loss.

Balancing costs and benefits

40. It would be desirable to develop a consistent framework for the use of all countries in relating the costs and benefits of alternative ways of achieving the

objectives of food security, taking into account the specific conditions in each country and especially in developing countries. Since benefits (especially social benefits) cannot be satisfactorily quantified, it would not be possible to determine the level of stocks at which costs and benefits would be in balance. Nonetheless, a clear identification of the various benefits and their assessment with reference to the national policy objectives, together with the measurement of likely range of costs, would permit a reasoned political judgement on the extent of insurance that should be sought in the context of food security.

VI. CRITERIA FOR THE SIZE AND RELEASE OF SEPARATE NATIONAL EMERGENCY STOCKS FOR LOCAL AND/OR INTERNATIONAL RELIEF, INCLUDING THE POSSIBILITIES OF SEGREGATING SUCH STOCKS FROM COMMERCIAL MARKETS

41. The Expert Consultation based its discussion on a paper by Professor K.F. Svärdström (Sweden) and a note by the Secretariat. This topic was related to the recommendation in the International Undertaking (para. 6) that "governments should .... where possible earmark stocks or funds for meeting international emergency requirements". Also, according to para. 3(b) of the Undertaking, the necessary provision for emergency situations should be included in the targets for total national stocks established in the context of world food security. The experts also had an exchange of views on the recommendation of the World Food Conference (Resolution XVIII) that international guidelines should be developed as a part of the Undertaking to provide for an effective coordination of emergency stocks and to ensure that the food relief reaches the neediest and most vulnerable groups in developing countries.

Segregation of emergency stocks

42. It was felt during the discussion that stocks earmarked for meeting emergency requirements would have to be integrated into reserve stocks. There would be no special need for physical segregation of stocks held for emergencies, although this would be a matter for the decision of each stockholding country. In some cases, measures may have to be taken to ensure the physical availability of supplies for possible emergencies by regulating commercial export sales, especially when stocks were in the hands of the private trade. However, for budgetary or bookkeeping purposes, or to the extent that stocks have to be kept in deficit areas, it would probably be desirable to specify the quantity or funds being earmarked for emergencies. A public announcement of the size of earmarked stocks or funds could have a beneficial effect by creating public confidence that assistance would be available in future emergency situations.

Criteria for size

43. As regards the criteria for size of stocks for emergency purposes, in practice their size would depend to a large extent on what could be afforded by the country concerned. The country concerned would also have to take into account other priorities including urgent domestic needs and other forms of aid. Emergency situations, by their very nature, called for great flexibility in treatment with respect to both administration and size of the assistance. Stocks earmarked for meeting emergencies would tend to represent minimum allocations for this purpose and the possibility of spontaneous response to disasters in mobilizing additional aid should not be ruled out.

44. Systematic evaluation of past emergency situations and extent of aid needed could provide some useful information for determining the size of emergency stocks. Reference was made to the FAO Consultant Study in which a suggestion was made that under an International Emergency Insurance Scheme 6 percent of the shortfall in trend production in developing countries might be absorbed by the countries concerned, the rest being met through international relief. Some experts pointed out that in most developing countries a 6 percent shortfall in trend production would lead to a magnified decline in the marketed surplus and could thus cause severe

speculative pressures on prices and human suffering. Some other experts felt that the proposal in the Consultant Study overlooked a number of important variables relevant to the definition of an emergency. These included balance of payments and the state of the economy of the country concerned and other factors of a specific emergency nature.

Criteria for release

45. As regards criteria for release and possibilities of insulating stocks earmarked for emergencies from commercial markets, it was considered that such stocks should normally be used only for non-commercial purposes, i.e. to meet urgent consumption requirements which would not be met through normal commercial channels. Release of emergency assistance might be more in need of international coordination than food aid for other purposes. In this connection, a timely information and early warning system on the type and extent of emergency situations and requirements would be important as a basis for sound decisions. It was also desirable to evolve guidelines for the release of such stocks to meet emergency situations. It was noted that the Intergovernmental Committee of the World Food Programme had defined an emergency as an urgent situation in which there is clear evidence that an event has occurred that causes human suffering or loss of livestock and which the government concerned has not the means to remedy; and it is a demonstrably abnormal event which produces dislocation in the life of the community on an exceptional scale. This covered sudden calamities such as earthquakes, floods, locust infestations and similar unforeseen disasters, man-made emergencies like an influx of refugees, and food scarcity conditions owing to drought, crop failure, pests and diseases. As regards crop failures, experts pointed out that it would be necessary to clarify the extent of the crop shortfall and to take account of the intensity and severity of the scarcity conditions arising from crop failure. It was also noted that a sudden and serious deterioration in the balance of payments of a food deficit developing country could also lead to an emergency situation requiring international relief, unless adequate food aid or long-term credits were available.

46. Special problems were faced by developing exporting countries where financial difficulties prevented the holding of stocks for international emergency relief. Similarly, many importing developing countries would need to be financially assisted in order to enable them to participate effectively in the world food security policy.

47. The need for ensuring that emergency food relief reached the "neediest and most vulnerable groups in developing countries" was recognized. However, there were considerable practical and administrative difficulties in actual emergency situations in low income countries in identifying such groups. In countries where large masses of the population belonged to vulnerable groups, food relief may have to be provided on an area basis.

Location

48. As regards location, some experts felt that in order to render speedy and effective assistance in emergency situations, at least a part of the stocks for emergencies should be located in areas vulnerable to recurring food shortages. Some other experts considered that there were disadvantages in prelocating stocks in view of the unpredictability of disasters, as well as for other reasons. Therefore they thought it would be more convenient if the stocks were preferably located in producing countries.

49. In addition to the provision of extensive assistance for the development of farming and the food industry in developing countries, one expert suggested that countries possessing surpluses or regular export supplies should establish reserve stocks to assist developing countries facing emergency food shortages. The magnitude of such stocks would need to be determined and might be based on a certain percentage of average annual grain exports. In his view, the stocks in developing countries should probably not exceed one to two months' requirements. It would expedite distribution of the grain if (in addition to wheat, rice and maize) stocks also included wheat flour and maize flour. Supplies from stocks would be provided to developing countries at a subsidized price, to be fixed annually. An international fund could be created to help meet the costs of reserve stocks, which should be replenished annually from new crop supplies. Special arrangements might be made to enable developing countries to pay back an equivalent amount in terms of commodities.

VII. ALTERNATIVE MEANS BY WHICH GOVERNMENTS NOT HOLDING THEIR OWN STOCKS CAN ENCOURAGE PRIVATE STOCKHOLDERS TO MEET THE OFFICIAL OBJECTIVES OF NATIONAL STOCK POLICIES

50. This topic was discussed on the basis of a paper prepared by Mr. W. Oberhänsli (Switzerland). Mr. Oberhänsli's paper analysed the Swiss system of food reserves held for economic defence, which were held on a compulsory basis partly by traders and millers and partly by the government, according to certain financial incentives and regulations. Recommendations for specified household reserves per caput are also made.

51. It was recognized during the discussion that as stockholding for reserve purposes is unremunerative, the private sector will not voluntarily hold the level of stocks required for food security without compensation or compulsion. In some countries private stockholders may be encouraged or obliged to hold a specified additional amount (or proportion of their turnover) as necessary to meet the national stock policy objective. For this they may be wholly or partially compensated, for instance by the entitlement to credit at a favourable interest rate. Such stockholding could also be made a condition for receiving an import or export licence, or could be enforced by law. In the case of an exporting country, the size of private stocks could be regulated through imposition of export control measures; however, if this depressed prices below support levels, it would result in larger acquisitions by official intervention agencies.

52. The government may use storage contracts in order to ensure that the desired total amount of stocks is held in aggregate. An agreement is reached between the government and the trade that a storage payment is granted which makes it attractive for the holders of grains to keep the relevant stocks in warehouses/silos until a future date. As the private sector has to finance the stocks, it runs a substantial price risk. Thus, in some countries private stockholders prefer to hold grain which is owned by the government, consequently avoiding price risks.

53. Incentives could range from a definite fee or commission for holding certain stocks on behalf of the government to a grant of special concessions in trading which would make it worth while for private traders to hold more than their trading or pipeline stocks for the country. Extensive credit at favourable interest rates for purchasing and storing the grain might be offered to private stockholders. A guarantee fund might be built up by levies on imports to refund storage charges to stockholders. By providing storage facilities and possibly offering a bonus to stockholders, or by providing incentives to farmers to build storage facilities, the government might make storing reserve stocks worth while.

54. An essential component of any national stock policy based on stockholding by the private sector is the comprehensive and regular reporting of all stocks held.

VIII. DESIRABLE MAIN ELEMENTS TO BE CONTAINED OR CONSIDERED IN A "MODEL" NATIONAL STOCK POLICY FOR CEREALS, COMPATIBLE WITH THE OBJECTIVES OF WORLD FOOD SECURITY, TAKING ACCOUNT OF THE DIFFERENT TYPES OF SITUATIONS EXISTING IN DIFFERENT REGIONS

55. This topic was considered on the basis of a paper prepared by Mr. S. Tamesue (Japan) which outlined the broad elements of a "model" national stock policy on an explorative basis (summary attached as Annex K).

56. The "model" suggested in Mr. Tamesue's paper was generally considered to provide a sound basic framework for establishing stock policies aimed at meeting the objectives of food security. It was stressed that any "model" would need to be adapted to the circumstances of each individual country, its institutional and constitutional requirements, stage of economic development and its position as an exporter or an importer of cereals.

57. The following observations were made during the discussion on certain specific aspects of the "model" put forward in the paper:

(i) The suggestion that a government might consider the possibility of selling cereals to private trade "at prices below the market price" as an incentive for private stockholding could disrupt commercial markets and would not be practicable in many countries.

(ii) The establishment of "stable" prices for producers may not always be compatible with "reasonable" prices for consumers and, in some cases, it may lead to a costly programme of subsidization of consumer prices.

(iii) Although long term trade contracts could be helpful in stabilizing supplies to an importing country, they could not be regarded as a substitute for stockholding policies, as they would normally not stabilize prices and would leave emergency requirements uncovered.

(iv) Some experts felt that ways in which private trade could be encouraged to hold stocks might be included in the "model". Other experts stressed that stocks held by private trade may not be adequate or able to achieve food security objectives, particularly as private stockholders were not easy to control; in such conditions, reserve stocks, either held and/or owned by governments, were necessary; direct government control over stocks would also be conducive to greater international cooperation and coordination in this field.

(v) The proposed "special" reports by private traders on their stockholdings would add to the already heavy load of reporting on them and could have adverse effects on markets and prices, particularly in developing countries.

(vi) Provision in reserves for food aid commitments should be an essential element in the stock policies of aid-giving countries; such a provision could be either in physical or financial terms.

(vii) Special problems were involved in rice stockholding programmes, which would need to be kept in view; these arose because of the geographical concentration of rice production and consumption in Asia and owing to the fact that major rice producing and consuming countries were developing countries with limited financial capacity.

(viii) It was suggested that it might be useful to explore the feasibility of a regional approach for stockholding, although it was recognized that previous initiatives towards regional reserves had not been fruitful for a number of financial, practical and political reasons.

58. It was suggested that the Secretariat might amplify and revise the "model" for national stock policies in the light of the above observations. It would be useful to distinguish between the conceptual elements of the model and the operational aspects. Further, the economic aspects of stockholding policy, and in particular its link with the price policies, could be usefully incorporated in a revised model stock policy.

IX. CONCLUDING REMARKS

59. The following observations were made on a number of more general policy issues regarding stockholding in the context of world food security:

(i) World food security is a common responsibility of the entire international community. It is essential that all major cereals producing, consuming and trading countries develop and operate stockholding policies within their financial capacity. To be consistent with each other, and to be effective in avoiding food shortages, such policies would need to be operated within an international system of cooperation. In particular, precise rules or guidelines for coordinated action at the international level should be investigated and negotiated.

(ii) Stock policies for world food security might require increased government regulation and control over stocks. It was of basic importance to evolve agreed criteria to ensure that the accumulation, holding and release of these stocks contributed to international price stability and orderly marketing. It was necessary to avoid extreme situations of surpluses and shortages as well as wide fluctuations in prices. The guidelines contained in paragraphs 7 and 8 of the International Undertaking were directly relevant for these objectives. An effective international agreement on cereals with price and stock provisions would provide a strong basis for global cooperation and coordination for this purpose.

(iii) An international commodity arrangement for national stocks held in the context of world food security should provide for special treatment of developing exporting and importing countries, keeping in view their limited financial capacity. Reserve stocks to be held by developing countries for food security would need to be financed through resources provided within the framework of an international agreement, and not solely through existing international financing institutions.

(iv) As regards the location of food reserves, there were considerations favouring their location in producing areas as well as in areas where they might be needed. Transport and storage facilities should also be taken into consideration in determining an optimum balance for location of reserve stocks. Regional stockholding could also be conducive to a balanced location of reserve stocks.

(v) In some respects it would be useful if stockholding policies, both at national and international level, had explicit quantitative stock targets. These should be made known to the fullest extent possible.

(vi) In view of the high costs of stockholding and the non-quantifiable nature of benefits, it would be desirable to develop a common system within which all countries could relate, on a consistent basis, the costs and benefits of alternative ways of achieving the objectives of food security, taking into account the specific conditions in each country, and especially in developing countries.

(vii) A free flow of information on the general market situation and outlook, and early warning of scarcity situations, was of basic importance in facilitating international coordination of national actions.

ANNEX A

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ANNEX B

LIST OF DOCUMENTS

Criteria for the size and release of separate national emergency stocks for local and/or international relief, including the possibilities of segregating such stocks from commercial markets. By K.F. Svärdström, Sweden. ESC: CSP/75/3. January 1975.

Ways of regulating the effects on commercial markets and prices of national stock policies formulated in the context of world food security. By D.J.C. Meeuws, The Netherlands. ESC: CSP/75/4. February 1975.

Some aspects of stockholding by the private sector: A note on the Swiss system. By Walter Oberhänsli, Switzerland. ESC: CSP/75/5. February 1975.

Ways of balancing the costs of national (or regional) stocks against the benefits of full or partial insurance in the event of domestic crop failure or other contingencies. By G.L. Miller, Australia. ESC: CSP/75/6. February 1975.

A note on concepts and definitions. ESC: CSP/75/7. February 1975.

Criteria for the size and release of separate national emergency stocks for local and/or international relief, including the possibilities of segregating such stocks from commercial markets: A note by the Secretariat. ESC: CSP/75/9. February 1975.

Desirable main elements to be contained or considered in a "model" national stock policy for cereals, compatible with the objectives of world food security, taking account of the different types of situations existing in different regions. (The model is intended to offer practical advice to countries wishing to formulate national stock policies for this purpose.) By S. Tamesue, Japan. ESC: CSP/75/10. February 1975.

Ways of regulating the effects on commercial markets and prices of national stocks policies formulated in the context of world food security. By Koy L. Neeley, United States. ESC: CSP/75/11. February 1975.

Methods of assessing the desirable size of stocks for food security and ways of sharing the cost burden between countries. By Noel O'Connell, Canada. ESC: CSP/75/12. February 1975.

Ways of balancing the costs of national (or regional) stocks against the benefits of full or partial insurance in the event of domestic crop failure or other contingencies. By Ram Saran, India. ESC: CSP/75/13. February 1975.

Extracts from the Report of the Council of FAO, Sixty-fourth Session, and from Resolution XVIII of the World Food Conference.

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ANNEX B
(contd.)

Background documents

1. International Undertaking on World Food Security, Resolution 1/64.

2. Report of the Working Party on World Food Security (Rome, 27-31 May 1974). CCP 74/14. June 1974.

3. World Food Security: Evaluation of the world cereals stock situation. CL 64/27. October 1974.

4. Food reserve policies for world food security: A consultant study on alternative approaches. ESC: CSP/75/2. January 1975.

5. National and regional food reserves. ESCB/Misc/75/2. December 1974.

6. Grain stocks issues and alternatives. USDA. February 1974.

7. A policy and action plan for strengthening national food security in Ethiopia. ESC/FSP/ETH. November 1974.

8. Probability of success of a "stock and allocation" policy. By J.B. Simaika. ESS/MISC/74 - 1. September 1974.

9. The problem of size in the Indonesian rice-stock policy. By Sukriya Atmaja and Sidik Moeljono, Indonesia. February 1975.

ANNEX C

Summary of the paper by N. O'Connell, Canada, on:

METHODS OF ASSESSING THE DESIRABLE SIZE OF STOCKS FOR FOOD SECURITY AND WAYS OF SHARING THE COST BURDEN BETWEEN COUNTRIES 1/

A brief background is provided on Canada's grain production and marketing and stock-holding policies. The bulk of commercial grain marketing (specifically of wheat, barley and oats) both for domestic and export markets is under a central marketing agency - the Canadian Wheat Board. Due to favourable production results in relation to requirements, Canada has no formal national stockholding policy. However, the central marketing agency system employed does tend to facilitate control over the disposition of stocks.

Reasons for Stockholding

It is necessary to outline the reasons for stockholding as they would have a bearing on the methods that might be used in assessing desirable size of stocks. The carrying of stocks may be considered to be necessary for some or all of the following reasons, depending on a country's circumstances and policy choices:

(i) to ensure domestic requirements are covered;
(ii) to enable the servicing of regular commercial markets;
(iii) to enable the meeting of potential additional market opportunities;
(iv) to ensure that aid undertakings are covered;
(v) to cover the transitional period between the cessation of old crop deliveries and the beginning of new crop deliveries;
(vi) to cover strategic requirements;
(vii) to regulate prices or supplies.

It is recognised that all of the above reasons will not be relevant to all countries.

Criteria for Assessment

The degree of predictability of production and its general trend are central factors in any assessment of desirable stock levels. Obviously, stock levels will be different depending on whether production is domestic or export oriented, and whether the grain is normally used for food or feed.

The timing of stock level assessment is also important particularly for covering requirements during the period between old and new crop deliveries. Desirable size of stocks will also depend on the degree of protection desired and the costs involved.

Categories of Stocks

Stocks should not be viewed in aggregate but as having a number of components. It is suggested that four categories of stocks might be considered viz; carryover stocks, working stocks, reserve stocks, buffer stocks. Carryover stocks are considered as the whole against which components can be viewed. While there are some difficulties in drawing clear cut distinctions between the working and reserve and between the reserve and buffer components of stocks, it is accepted that definitions are necessary to develop a basis for stockholding arrangements.

1/ Summary prepared by the Secretariat

In the context of world food security three objectives are seen for reserve stocks.

a) To safeguard food supplies to developing countries i.e. emergency reserves.
b) To safeguard commercial requirements
c) To add stability to international markets.

Based on these objectives it is concluded that the question of stockholding cannot be considered in isolation from effects on the marketplace.

Methods of Assessing Desirable Stock Levels

Reference is made to the three methods of assessing a theoretical stock level outlined in FAO document CCP: GR 74/11. These are discussed from the standpoint of an individual exporting country.

As a first step, it would be necessary to assess the level of "minimum" working stocks required to cover domestic and export needs during the period between old and new crop deliveries. This could be arrived at on the basis of compiling planned requirements or alternatively by examining past performance in this respect. The next stage would be to examine domestic requirements in the case of possible crop failure. In this context, one could determine the maximum shortfalls below trend over an appropriate historic period and use it as a measure of the stock required. However, because of the improvement in farming practices, this might provide an indicator longer than necessary. A third stage in determining stock levels would be to examine commercial export commitments and aid undertakings. To the extent that firm aid arrangements had been made and commercial contracts entered into, a fair degree of precision could be attached to these quantities. However, there would be difficulties in estimating the major proportion of expected supplies which would not have a known destination.

It is doubtful whether a clear cut distinction between working stocks and reserve stocks can be made. For example, in an emergency situation it is conceivable that working stocks would be drawn upon.

In practice, individual countries will need to see how their particular circumstances fit into the larger framework and may need to develop techniques peculiar to their conditions. However, for determining a reserve stock level for the world as a whole, methods which bring together production and consumption trends appear more suitable.

Ways of Sharing the Cost Burden

Cost sharing arrangements may be placed in two categories according to the type of stocks:

(i) Commercial Reserve Stocks

Bilateral Arrangements At issue are security of supplies and of access. To some extent, these have been dealt with in the past and no doubt will continue to be dealt with in the future by means of a sales contract or a long-term agreement. Although such an arrangement offers advantages to both importers and exporters, the unpredictability of production and the variability of prices limit its scope. An alternative arrangement is for importers to pay the carrying charges on stocks or to purchase them outright, leaving them to be held on the importer's behalf in exporting countries.

Multilateral arrangements Costs might be allocated according to:

Consumption patterns
Gross National Product
Per capita Gross National Product
Variations in production

(ii) Emergency Reserve Stocks

a) Exporters could agree to hold a certain portion of their stocks in reserve for emergency purposes. The cost could be shared between developed exporters and importers, possibly on a GNP basis.

b) Developed importers could agree to purchase stocks to be held in reserve.

c) An international agency could be given responsibility and funds for the purchase and payment of carrying charges of reserve stocks to be held either in producing countries or in locations considered readily accessible to potential areas of need.

d) Through international financing institutions, developing countries could be provided with the means to purchase requirements from a commercial reserve base.

The above-mentioned ways of cost-sharing are not exhaustive. It would be useful to discuss the merits or disadvantages of these ways or criteria further.

ANNEX D

Summary of the paper by D.J.C. Meeuws, Netherlands, on :

WAYS OF REGULATING THE EFFECTS ON COMMERCIAL MARKETS AND PRICES OF NATIONAL STOCK POLICIES FORMULATED IN THE CONTEXT OF WORLD FOOD SECURITY

Efforts should be made to minimize the effects on commercial markets and prices of national stock policies. As far as the required stockpiling is concerned, three categories of countries can be distinguished: (a) countries where the production of grains is normally about equal to the domestic consumption; (b) countries which do not produce a sufficient quantity and thus depend on imports as well; (c) countries which produce more than they need for domestic consumption and therefore export grains. The three situations are examined with reference to the results of stockpiling in relation to commercial markets and prices.

When assessing the level of the required or desired stocks, it will have to be ensured that sufficient and appropriate storage capacity is available at suitable places. In addition, sufficient drying capacity should be available in countries where the moisture level in grains is too high for direct storage, in order to bring the moisture down to a level where long-term storage becomes possible. If sufficient storage capacity and/or drying capacity is not available, this should be extended.

Stockpiling can take place in three ways: (a) the government itself provides for the required stocks and owns them; (b) the government provides incentives for private concerns to purchase and carry the required stocks; (c) a combination of (a) and (b). Normally, the private trade of its own accord will not have sufficient incentive to carry stocks at a level which is desirable under special circumstances. Thus special conditions should be created by the government.

Grain purchases will take place at the time of the existence of surpluses in order to market these again at home or abroad when there is a shortage. Governments should devise the necessary measures in such a way that they disturb as little as possible the sale and purchase pattern of growers, traders, processors, etc., which has developed on the basis of a free market. Furthermore, the government should inform interested parties long beforehand if it intends to undertake certain action.

Measures to be taken in countries where normally the production of grains is about equal to the domestic consumption

It is assumed that the stocks are purchased out of grains of the domestic crop in a year in which the crop is above normal. In order not to disturb the market and price development on the home market, the government should participate as a normal buyer of grains and try to make purchases at the most favourable prices. The government may intervene by means of a broker or by holding a tender. Purchase of the required quantity should be spread over a long period in order to minimize undesired price disturbances.

If the government has purchased grains and does not have at its disposal storage capacity of its own, it will be necessary to try to reach an agreement with sellers to stockpile the grain in their silos. If this does not prove to be a success, efforts should be made to obtain the required storage room elsewhere, and in this connection preference must be given to storage room where grains can be conditioned.

If the trade retains ownership of stocks, the government may arrange so-called "storage contracts" with the trade, in which an agreement is reached between the government and the trade that for the desired quantity a storage payment is granted that makes it attractive for the holders of grains to keep the relevant stocks in warehouses/silos until a future date. However, if the government wants to have stocks always at its disposal, it will be necessary that in the storage contracts between the government and the holders of the grains a clause is included on the basis of which the government can always buy the grains at the current market price.

Under a system of storage contracts the trade and processing industry themselves have to finance the stocks. However, since the grain may remain in store for a considerable time before the government is willing to purchase at the market price, the trade and processing industry is running rather large price risks. In the first place, the government determines the time of purchase, which can be less favourable for the holder of the grain. In the second place, the price development during the period between the date of conclusion of the storage contract and the date of the actual purchase implies great unforeseen risks, in which inflationary trends play an important part.

If in the case of a crop failure or suchlike eventuality, the government has to supply grains from reserve stocks, the sale to trade/processors can take place through tenders or by means of auctions. At periodic intervals it can be determined what maximum quantities will be sold per tender or per auction. In allotting domestic supply, care must be taken not to disturb the domestic price level existing at that moment; in other words, it may only be allotted against prices that are within certain limits of the domestic price level.

Measures to be taken in countries which do not produce enough themselves and therefore also depend on imports

These countries will have to purchase their reserve stocks on the world market. In order not to disturb the world market prices in a tight market situation, purchases should be spread over a long period. The purchases should take place through normal trade channels. If a country purchases grain from an importer, it will be attractive under certain conditions to reach agreement with the seller to store the grain in his silo, since he will be able to keep the lots in good condition and to rotate these from time to time with newly imported quantities for the normal supply. In this case the government should pay the ruling tariffs for storage and keeping. If the government prefers not to be the owner of the grain, it could try to conclude storage contracts with the holders of imported grain with adjustment of the market price.

If the government, in the case of a shortage on the world market, has to sell grains from government storage on the home market, the sale to the trade/processors can take place by means of tenders or through auctions. Measures should be taken to prevent price disturbances from occurring on the home market because of sales from the stocks. In view of the fact that imported grains might be stored to a large extent in the importing ports, the selling prices should be based upon the condition "ex store", since the processors who have their residence further from the importing ports, under normal circumstances also have to pay for the freight from the harbour to the inland destination.

Measures to be taken in countries which produce more than they need for domestic consumption and therefore export grains

The internal measures which have to be taken in these countries for the purchase of the grain and for storage and sale, are in principle the same as those which apply in countries where the production is about equal to their domestic consumption or in countries which rely on imports.

Measures to be taken in relation to international events

If on the world market a tight supply situation occurs, as a result of which the importing countries have to break into their reserve stocks, the exporting countries should also take certain measures. On the one side the countries with a shortage will have to minimize their import requirements by making use of stocks built up earlier; on the other side, the exporting countries will have to release the largest possible quantity for export from their reserves, as a result of which the tensions between supply and demand are reduced as much as possible.

In view of the close link between the measures to be taken in importing, exporting, and also, to a certain extent, in normally self-supporting countries, it is important that in relation to the building up of reserves every decision to purchase on the world market, or to sell from the reserves for the home market, or to export to a certain country or certain countries, is taken after consultation with other interested countries. It would be desirable to have permanent access to relevant information in relation to this.

ANNEX E

Summary of the paper by K.L. Neeley, United States, on :

WAYS OF REGULATING THE EFFECTS ON COMMERCIAL MARKETS AND PRICES OF NATIONAL STOCKS POLICIES FORMULATED IN THE CONTEXT OF WORLD FOOD SECURITY

An important requirement of effective stocks policies, national and international, is that they have a minimum impact upon commercial markets and prices. Effective reserve policies should provide a buffer in the world supply demand balance, without changing the balance. This topic concerns how to minimize these commercial effects and how to coordinate national stock policies to meet the global objective.

This calls for a tempering of national actions on reserves so as to meet an internationally agreed objective. We have no experience that is very relevant and must begin with an exchange of ideas. How can national actions be coordinated on an ongoing international reserve objective? What guides can be developed so that such coordination is successful? Does a system exist which would provide a reliable measure of the amount of year-to-year draw-down or build-up which is called for on the international level? Is it possible to fit such a system to the situation of individual countries?

Finally, at the international level there is a need to know what is expected each year in aggregate and of each individual country, and, when the year is over, what was done nationally and globally. A reliable and timely reporting system is vital if the undertaking is to succeed.

Assuming that a global target has been undertaken jointly by most of the important producing and consuming countries that is large enough to provide protection against global production shortfalls, we address ourselves to the problem of how these year-to-year changes are to be related to the individual country situation. There appear to be two possibilities for use as guides to the amount of change in world reserves target from one crop year to the next, i.e. international market price level and world crop outturn, or more specifically aggregate yield per unit of land area.

In the first case, market price would indicate the extent of shortfall and signal the amount of stocks to release. Market price might then be used to measure the adequacy of the level of release. The use of price has the disadvantages of providing a somewhat obscure indication of levels of adjustments required, poses the problem of confrontation between reserve policies and international price objectives of different countries and creates the problem of arriving at agreement on actual level of international prices. The second possibility is the use of annual deviation of crop outturn, in terms of yield, to determine the extent of stock draw-down. This alternative seems to offer the greatest reliability as an established system of reporting already exists, the measure is well understood and accepted, and calculations of crop outturn should leave little scope for disagreement.

A combination of the two approaches might be used, but would likely prove impractical.

If there is to be successful international cooperation in the grain market, the system must provide the widest possible margin of flexibility. We cannot technically foresee any country committing itself to precise actions affecting its place in the international market or foregoing the residual right of managing their own supply-demand situation. We can foresee countries adjusting actions on reserves stocks and acknowledging international guidelines so long as guidelines remain flexible and the system is based upon continuing best efforts and intentions of countries desiring to participate.

To avoid commercial impact at the international level, guidelines should assure that the global draw-down in reserves in any one year does not exceed the global shortfall in that year's crop. This should remove the danger of excessive year-to-year reduction of reserves and prevent the gradual erosion of the target reserves level.

We would not envisage that each country would fully meet its guideline each year, but that a large number of countries in aggregate would come close to the international target by best endeavours of each individual country. To facilitate definitive end-of-season measurement of progress, the guideline should be precise and lend itself to accepted methods of quantification. Such measurement will be essential in establishing the next year's guideline and preserve capacity to meet the requirement of possible future more extreme global shortfalls.

ANNEX F

Summary of the paper by G.L. Miller, Australia, on :

WAYS OF BALANCING THE COSTS OF NATIONAL (OR REGIONAL) STOCKS AGAINST THE BENEFITS OF FULL OR PARTIAL INSURANCE IN THE EVENT OF DOMESTIC CROP FAILURE OR OTHER CONTINGENCIES

An internationally agreed stockholding system requires international agreement on a set of precise and unambiguous objectives to be pursued. Unfortunately such a set of objectives is unlikely to be negotiable owing to the different values placed by individual countries on the relative importance of stocks in various sectors. This raises problems with reference to the provision of guidelines for the operation of a model stock policy. It also raises difficult problems in the assessment of a level of stocks for world food security. Computations at the aggregate level based on the probability of a shortfall in importing and exporting countries bear little relation to how countries will actually behave in accumulating, storing and selling grain, unless their behaviour is regulated by some international agreement.

It is unlikely that many countries will be in a position to develop an "optimum" stockholding policy, given the reluctance of policy makers to place monetary values on unquantifiable variables or arbitrary maximum or minimum values on quantifiable variables. However, the problem of determining national stockholding policy should still be approached within a consistent framework where the costs and benefits of alternative stockholding strategies can be examined. This paper provides a broad framework in which the benefits may be related to the costs and the costs in turn to the costs of achieving the same benefits by alternative means.

Benefits

Benefits are considered from a national viewpoint rather than from a commercial one.

(i) Speculative gains: These include not only the increase in price between seasons multiplied by the quantity carried, but also a component of the realized value of the current season's marketings. The latter benefit may in some countries and in some years be substantial.

(ii) Provision of food security and food aid: The value a country wishes to place on its capacity to provide food aid in emergency situations depends on its perception of its international moral and political obligations, its judgement of the likely frequency of occurrence of such emergency situations and the balance that it holds between dealing with immediate short run problems and handling longer term causes of these difficulties. A grain exporter may wish to give priority in the spending of aid money to encouraging food production in developing countries, or facilitating their general economic development rather than to the accumulation of grain stocks.

(iii) Domestic economic stability: This objective can be achieved also through other methods, such as price control, rationing and long term contractual arrangements with other reliable exporters. Therefore the extent of benefit of domestic economic stability that might be attributed to a grain stock would need to be weighed with reference to the cost of stockholding on the one hand and the cost of other alternative means.

(iv) Goodwill in trading: Achieved by means of an established reputation as a reliable supplier even when the domestic crop is short. This benefit may be easier to evaluate when it is expressed tangibly in the form of long term contractual arrangements.

(v) World price stability: Stocks may be used to maintain prices at stable profitable levels. Other ways of achieving this benefit include bilateral or multilateral trading arrangements, perhaps in the context of an international grains arrangement. As the existence of stocks per se will normally have a depressing effect on world prices, an international agreement that was sufficiently unambiguous and binding to prevent the recurrence of a price depressing situation would be very beneficial.

Costs

Many of the sources of benefits in stockholding may become costs if the judgements on which the assessed positive benefits are based turn out to be in error. Costs of this nature may be regarded as negative benefits. In addition there are substantial direct costs of holding increased grain stocks.

(i) Capital costs of storage facilities. If there is excess capacity in existing facilities this cost will be reduced. There are considerable economies of scale in storage construction and so large regional or national terminals are likely to prove cheaper.

(ii) Production incentives: Needed if a considerable increase in stocks is required in a short time, or if stocks are to be replenished quickly after use.

(iii) Storage costs: Comprise costs for fumigation and aeration if grain is accumulated by purchase from normal production, but also costs for transport and handling if grain is additional to that normally produced or traded.

(iv) Cost of finance: Includes the interest on the capital tied up in the grain itself.

(v) Product loss.

A conceptual framework

In an idealized situation an optimal stock would be determined by applying techniques of marginal analysis to a simulated set of past data on grains prices, production and trade. However, many benefits are unquantifiable in any practical sense while past data may be of limited use because of the possibility of structural shifts in grains prices, production patterns and price levels. Since costs may be quantified with reasonable

accuracy, the method suggested in this paper is to use parametized cost ranges as a benchmark against which policy makers might be able to exercise judgement in a variety of possible benefit situations. In other words, having arrived at a set of tables for the cost of storage, the method proposed in this paper then requires the matching of benefits from alternative avenues individually with the cost involved.

The results of applying some general formulae for calculating the average cost of stockholding to the derivation of storage cost tables for Australia reflect the substantial cost involved and the increases resulting from prolonging the storage cycle, increasing the purchase price and expanding the quantity stored. These very significant costs of holding grain are the most outstanding result of the preliminary analysis. Even if additional sources of benefits are discovered, it would seem to be imperative that if nations are to be encouraged to hold substantial stocks, prospective costs must not be added to by the possibility of the stocks exerting a downward pressure on commercial grains prices. The provision of adequate safeguards in this respect may prove to be the major obstacle to the development of an internationally coordinated system of national grain reserves.

ANNEX G

Summary of the paper by Ram Saran, India, on :

WAYS OF BALANCING THE COSTS OF NATIONAL (OR REGIONAL) STOCKS AGAINST THE BENEFITS OF FULL OR PARTIAL INSURANCE IN THE EVENT OF DOMESTIC CROP FAILURE OR OTHER CONTINGENCIES

The establishment of food reserves which serve as an insurance against domestic crop failures or other contingencies involves the use of substantial resources. Considering the fact that these resources often get tied up for long periods and also that the developing countries face an overall scarcity of resources, the question that should naturally be asked before undertaking a programme of reserve stock is: will the benefits expected from such a programme be large enough to offset the costs involved? The unpredictability of agricultural output renders it difficult even to form an idea about the period for which stocks may have to be held, and therefore presents special problems regarding the measurement of benefits and costs pertaining to such a programme.

There are three types of costs involved in holding reserve stocks. These are: (i) acquisition cost of grain, (ii) capital cost of constructing new storage facilities, and (iii) carrying cost.

Developing importing countries can build up reserve stocks by acquiring supplies only through imports; they cannot, however, afford to make purchases in the international market at the prevailing prohibitively high prices. The c.i.f. price for imported wheat would have to come down to a reasonable level of, say, $ 120 per ton to make the stockbuilding programme economically viable for developing countries.

Developing countries will also have to undertake construction of scientific godowns, preferably silos which involve heavy cost.

The carrying cost, which includes storage charges, interest, storage losses and administrative overheads, is estimated to be around US$ 24 per ton a year in Indian conditions.

The total cost of establishing national reserve stocks will vary from country to country depending on the size of the stock needed for providing insurance against crop failures or other contingencies, but there is no doubt that the developing importing countries will be hard put to muster resources for building up adequate reserves. International assistance in the form of finance, food and other materials would be necessary to supplement national efforts.

In importing countries a reserve stock ensures continuity of supplies and helps provide timely relief to the affected people when production receives a setback or the supply line is on the point of breaking down because of any other factors. If the stock is large enough to provide a complete insurance against production shortfalls, the market price, even in years of crop failure, may remain below the economic cost of the grain kept in reserve. It is, therefore, possible that the agency holding the stock may incur losses on its release. Producers whose production may have suffered may also find their incomes reduced because of the absence of rise in prices which generally goes with fall in production.

The financial losses of the stockholding agency and of the producers must, however, be weighed against the several benefits of stock operations. Availability of stocks within the country avoids the need for rushing to the international market when supplies may be short and prices high. The benefit of such a situation could be measured in terms of the expenditure that would otherwise have to be incurred in arranging supplies from abroad. There are a number of other economic and social benefits which, though not strictly measurable, are no less significant. The stock operations subserve the food policy objectives such as ensuring stability in prices and making food available to the weaker sections at reasonable cost. Stable prices are also conducive to sustained investment and promote growth of the economy in general.

If reserve stocks are established with a view to providing partial insurance against crop failures or other contingencies, it might be possible to achieve a better balance between costs and benefits even in monetary terms. A reserve stock in such a case, while helping to reduce excessive fluctuations in prices, would permit some rise therein in years of low production. This would enable the stock agency to make releases from the stock without incurring much loss.

While there are strong economic and social justifications for a scheme of reserve stock, any government undertaking such a scheme cannot afford to completely ignore its commercial or financial aspects. The commercial viability of a stock-holding policy can be improved through minimization of costs. The most important factor which influences the level of costs is the quantity of grain that is held in reserve. A scheme aiming at partial insurance would involve the maintenance of a stock of smaller size compared to a scheme providing for full insurance. The stocks required would also be smaller if they were held at regional or international level as crop failures would not be expected to occur simultaneously in all countries; at least their severity would be expected to vary from country to country.

For countries which have to build up stocks entirely through imports, economies may be possible only if supplies are made available at special concessional rates. Where domestic procurement is also undertaken, the acquisition cost of grain could be reduced by following a system of dual pricing whereby the government acquires a part of the supplies at fixed prices and the remaining part is allowed to be sold at prices to be determined by the forces of supply and demand. Judicious organization of purchases with reference to time and space and the procurement of cheaper grains could also lead to economy in acquisition cost. The relative advantages of bulk storage and bagged storage and the optimum scale of storage structures and their locations would also need examination from the point of view of economy in storage cost. For economy in the carrying cost in which interest is the major element, the feasibility of making available the requisite funds at concessional interest rates by international financial institutions would need to be explored.

Though there are a number of ways of improving the commercial viability of a scheme of food reserves, the monetary benefits may not always be expected to offset the costs completely. It is necessary to give due weight to the economic and social benefits resulting therefrom. A scheme of stocks is expected to contribute to the national food security and through that to the economic security of a nation. Full cooperation of all countries and international organizations will be necessary to make a scheme of food reserves - national and international - a success.

ANNEX H

Summary of the paper by K.F. Svärdström, Sweden, on:

CRITERIA FOR THE SIZE AND RELEASE OF SEPARATE NATIONAL EMERGENCY STOCKS FOR LOCAL AND/OR INTERNATIONAL RELIEF, INCLUDING THE POSSIBILITIES OF SEGREGATING SUCH STOCKS FROM COMMERCIAL MARKETS

Under the heading "Segregation of stocks" the paper analyzes the role of grain storage in a commercially developed economy. In such an economy Turnover stocks and Seasonal stocks as well as Carryover stocks from one year to another are handled on commercial terms by private traders. In Sweden these to a great extent are agricultural cooperatives with a coordinated interest in the agricultural policy which also aims at domestic market regulation and price stabilization. Additional storing of a non-commercial nature for national emergencies is integrated into the system. For the rest, exports (and imports) are free with a more or less direct implication upon the farmers' income.

It is suggested that storing for international assistance (Excessive stocks), like the national emergency stocks, will have to be integrated into the existing marketing system as an expansion of this. The cost (and size) is a matter for budgetary consideration. Some minor costs also have to be settled in connection with the regular price negotiations between government and farmers' organizations.

In the second part of the paper "Criteria for size and release", three types of excessive stocks are analyzed: Emergency stocks, Food-for-Development stocks and international Stabilizing stocks. Of these, the two first-mentioned kinds are not stocks in a commercial sense; they represent quantities or an amount of money earmarked for assistance. The financing, furthermore, has no direct relation to price variation between times of plenty and times of scarcity. However, this price variation with respect to the world market outside the domestic market and in a correspondingly longer time perspective is relevant to the financing of Stabilizing stocks.

The paper analyzes to some extent how Emergency and Development "stocks" can be released by decisions of an intergovernmental body or by the donor countries unilaterally. The need for coordination is stressed, especially with respect to assistance in case of emergencies.

The discussion concerning Stabilizing stocks is very brief because of lack of experience. However, some points of view are put forward as an introduction to a more specialized and comprehensive discussion.

ANNEX I

Summary of the Secretariat Note on:

CRITERIA FOR THE SIZE AND RELEASE OF SEPARATE NATIONAL EMERGENCY STOCKS FOR LOCAL AND/OR INTERNATIONAL RELIEF, INCLUDING THE POSSIBILITIES OF SEGREGATING SUCH STOCKS FROM COMMERCIAL MARKETS

The size of national emergency stocks for local relief might be determined on the basis of past national experience as to the requirements of local relief distribution in recent emergency situations. The size of national emergency stocks held for local relief within the same country would be a matter for decision by the government concerned. One method for estimating a desirable aggregate level for national stocks earmarked for international emergency relief would be to relate emergency situations to past experience of emergency aid given on a grant basis.

While physical segregation of emergency stocks from other stocks does not seem necessary in order to insulate them from commercial markets, strict control is needed to prevent their being used for non-emergency purposes. The stocks earmarked for international emergency relief could be located in the countries earmarking such stocks or in possible disaster areas, or in a combination of both. While there are some advantages in locating emergency stocks in disaster prone areas (i.e. ready availability) there would also be disadvantages, for example immobilization of substantial amounts of stocks.

In Resolution XVIII of the World Food Conference it is recommended that international guidelines for emergency stocks earmarked for international relief be developed as part of the International Undertaking on World Food Security in order "to provide for an effective coordination of emergency stocks and to ensure that food relief reaches the neediest and most vulnerable groups in developing countries". Some possible international guidelines are outlined.

(a) The term "emergency" should be defined e.g. along the lines of the definition adopted by the Intergovernmental Committee of the WFP.

(b) Governments undertaking to earmark stocks or funds for international emergency relief (as envisaged in para. 6 of the Undertaking) should publicly announce their size together with the conditions under which they would be held, released and replenished.

(c) Release should occur when there is an emergency as defined e.g. in (a). In situations where the circumstances are unclear or the scale of relief required is very large, the extent and type of emergency aid needed may be ascertained by independent enquiry.

(d) To facilitate the rapid release of stocks with a view to rendering speedy assistance in emergencies, a part of the proposed emergency stocks should be placed at the disposal of the World Food Programme on a voluntary basis.

(e) To facilitate a coordinated approach in cases of large-scale food emergencies, the Director-General of FAO should consult the affected country or

countries as well as aid-giving countries regarding the desirability of establishing a focal point for coordinating emergency aid operations and shipments.

(f) Such earmarked emergency stocks, when released, should be replenished as soon as feasible and, preferably, not later than the following harvest.

(g) Stocks earmarked for emergency relief should be located in a manner and place which ensure that they are available for delivery when and where they are most likely to be required; and which, with the available storage and transport facilities, minimize the financial costs involved and also facilitate urgent shipments to recipient countries in the shortest possible time.

(h) Likely recipient countries should elaborate appropriate plans or programmes so as to ensure that food relief reaches the neediest and most vulnerable groups directly, without delay and avoiding losses.

(i) Arrangements made regarding the earmarking, release, location and replenishment of such emergency stocks or foods held for international emergency relief should be notified by the government concerned to the Director-General of FAO and kept under general review by the Committee on World Food Security.

ANNEX J

Summary of the paper by W. Oberhänsli, Switzerland, on :

SOME ASPECTS OF STOCKHOLDING BY THE PRIVATE SECTOR:
A NOTE ON THE SWISS SYSTEM

Owing to the experiences undergone in the first and second world wars, during which for months Switzerland was cut off from the supply of foreign bread grain, a system of compulsory reserves for cereals, feeding stuffs and food has been created. Measures are based on an article on grain inserted as early as 1929 into the Federal Constitution as well as on further legal prescriptions issued since that time.

For the implementation of the reserve stocks policy, the holding of stocks by the manufacturer was intentionally placed in the foreground. This has the advantage that trade in foreign bread and feed grains between the importer on the one hand and the mill on the other will hardly be affected. On the contrary, the importer, through the obligation imposed on him to hold reserve stocks, has the possibility, according to the market situation, of arbitrating between the goods on hand and those which are imported.

Compulsory reserve stocks

In the system of compulsory reserve stocks are included all the most important staple commodities, such as bread and feed grains. In practice, these are almost exclusively products which have to be imported. In certain cases, mainly those of bread grain, the reserves can consist of domestic goods.

The objective of the stock holding policy is to have minimum reserves always at disposal. These minimum reserves, which have to be stored inside national frontiers, are fixed by the authorities and constitute a certain proportion of the annual total consumption. The compulsory reserves have to serve for economic defence and are not intended to be used for price stabilization purposes.

The operation of the system of stock holding for cereals

The grain law stipulates that the Confederation 1/ has to hold at any time a reserve in bread grain of 100 000 tons (around 15 percent of total requirements). Half of this quantity has to be stored by the FCA 2/, the other half by the mills. The same law provides for the storing of additional compulsory reserves of up to 310 000 tons of bread grain (around 55 percent of total requirements) mainly by importers (mills and grain dealers) and a small remainder by the Confederation. For this purpose, the Confederation concludes a stockholding contract with each individual importer and processor according to the imports (dealer) and the processing (mill) during a certain period, which will be renewed or adapted from time to time. The observance of these contracts is regularly checked by the FCA.

1/ Parliament/Federal Council/Swiss Federal Cereals Administration.

2/ Federal Cereals Administration, a division of the Department of Finance and Customs placed under the Federal Administration.

The supplementary reserve stocks are stored as follows:

	Soft and hard wheat * tons	Durum wheat ** tons	Total tons
By the commercial mills	125 000	31 000	156 000
By the grain dealers	55 000	19 000	74 000
By the Confederation	80 000	-	80 000
Total	260 000	50 000	310 000

* Soft and hard wheat for the manufacture of bread.
** Durum wheat for the manufacture of pasta products.

The sector feed grains/feeding stuffs and oats/barley/corn for human consumption comprises practically all other cereals which are used for feeding purposes or human consumption. In this case likewise, special contracts will be concluded by the Confederation with each individual importer or manufacturer, and will be revised from time to time. The compulsory reserves of this sector amount to approximately 360 000 tons of feed grains/feeding stuffs and cover about 25 percent of the total requirements of Switzerland. In addition, there are approximately 22 000 tons of oats/barley/corn for human consumption (about 60 percent of the total requirements).

Financial regulation

In accordance with the prescriptions concerning the holding of compulsory reserves, the stockholders are entitled to ask for a bank credit of up to 90 percent of the value of the goods, warranted by the Confederation and based on a basic price agreed upon with the authorities. The interest for this credit is 4.5 percent as against 7 to 8 percent for the usual bank rates.

Trade in cereals is exposed to intensive competition and therefore the profit margin is rather low. For these reasons, charges arising from the holding of reserve stocks could be the cause of disturbances. The associations of importers have therefore established a cash pool (guarantee-fund), which is built up by import levies on the one hand and by levies on milled grain (for soft and hard wheat only) on the other. From these resources are refunded the storage charges to the stockholders at a flat rate. However, these expenses are included in the prime cost of the goods, which eventually has to be borne by consumers.

Financial operations involving the cash pool are, at present, taking place as follows:

	Levies on imports per 100 kilos	Levies on milled grain per 100 kilos	Compensation to stockholders per 100 kilos a year
For soft and hard wheat	Fr. 3.50	Fr. 2.25	Fr. 5.00/6.00
For durum wheat	" 2.75	-	
For feed grains/ feeding stuffs	" 2.00	-	
For oats/barley/corn for human consumption	" 1.50/1.75	-	

Total stockholding expenses:

for break grain	...	15-16 million francs
for feed grains/feeding stuffs	...	22-23 " "
Total per year	...	37-39 million francs

Although the compulsory reserves are the property of the stockholders, they cannot dispose of them without permission from the authority.

Other reserves

The compulsory reserves are independent from other reserves which the grain trade and the manufacturers maintain for their own account. No official data are available on these; however, they may reach the level of requirements for a month.

ANNEX K

Summary of the paper by S. Tamesue, Japan, on:

DESIRABLE MAIN ELEMENTS TO BE CONTAINED OR CONSIDERED IN A "MODEL" NATIONAL STOCK POLICY FOR CEREALS, COMPATIBLE WITH THE OBJECTIVES OF WORLD FOOD SECURITY, TAKING ACCOUNT OF THE DIFFERENT TYPES OF SITUATIONS EXISTING IN DIFFERENT REGIONS

A national stock policy should be so formulated as to meet various situations ranging from the surplus situation of past years to thepresent tight supply/demand situation. It should be adapted to the circumstances of the country and take account of other policies related to stockholding. Bearing these considerations in mind, the elements to be contained or considered in a "model" national stock policy are discussed in this paper on an explorative and not an exhaustive basis.

Policy objectives

National stock policies could have one or more of the following policy objectives:

(a) Maintaining a regular flow of supplies for domestic consumers.
(b) Maintaining a regular flow of supplies to export markets.
(c) Meeting international commitments (e.g. food aid programmes or long-term contracts).
(d) Implementing price stability programmes.
(e) Meeting emergencies and crop failures.
(f) Maintaining strategic reserves.

It is desirable for a stock policy to contain these objectives, including that of meeting a surplus situation, as a measure to stabilize the supply of cereals which are essential foodstuffs for human life or for strategic purposes.

Commodity coverage

The storable and staple food of a nation could form a major part of any stock. Stocks would cover at least basic foodstuffs, such as wheat, coarse grains for human consumption and rice, depending on their importance in the respective countries; in some cases grains for animal feeds would also be covered. Where necessary, the policy should be set up on a commodity-by-commodity basis, taking account of the relationships between commodities.

Administrative arrangements

Whether stocks are held by the government or by the private sector with the aid of government subsidies will depend on thepolitical and economic system of the country concerned, and, in particular, on the degree, method and organization of government control of the marketing of cereals and on the priority given to the various objectives in the national stock policy.

Targets

The establishment of a stock target is desirable whether or not the target figure is publicly announced, in order to achieve the objectives of the national stock policy. The elements to be considered in setting a target are contained in the "Guidelines for Establishing and Holding Stocks" of the International Undertaking on World Food Security. These guidelines should be examined in the light of the situation in individual countries. Other elements to be taken into account when setting a target are:

(i) the extent of shortfall or of a contingency situation to be covered;

(ii) existing and potential storage capacity in the country;

(iii) price disruption effect of the stocks.

The total costs and benefits of stocks should be evaluated as far as possible and the stock policy should be coordinated with price support, production adjustment and other related policies. The target may be expressed in the form of a minimum or a range consisting of minimum and maximum levels.

Exporting countries would have a relatively larger stock than importing countries as their target, where possible, should include a reserve to meet contingency situations on the international market. The stock requirement of importing countries may be lessened by the quantity guaranteed by long-term contracts. Special difficulties of developing countries are recognized, but they should endeavour to realize a determined target as much as possible.

Stock management operations

(a) Information The private sector should submit special reports in addition to regular reports concerning their stockholding. If necessary, suitable measures to enable the government to check the actual stocks held by the private sector should be included as part of the stock policy.

(b) Accumulation of stocks Producing countries should accumulate stocks during the harvest season. Importing countries should preferably accumulate stocks by importing cereals when the international supply/demand situation is slack and prices are at a fairly low level. In the case of domestically produced cereals, it is sufficient for private traders and governmental organizations to set aside a certain proportion of the cereals harvested in accordance with the stock policy. This requires a surplus for accumulation and implies the close coordination of stock and production policies. In the case of importing countries it would be possible to obtain enough stocks to meet objectives by increasing the flow of imported cereals running through market channels. This would facilitate rotation which is necessary for eliminating quality deterioration due to long-term storage.

Governments will purchase cereals for stocks either at the support or at the market price. The private sector will usually purchase at market price, but the possibility of government selling stocks at a price below the market price may be considered to provide an incentive to hold stocks.

The demand pattern for the kinds, qualities and classes of cereals should be fully considered when stocks are accumulated, and stocks of different kinds and qualities should be stored separately.

Many conditions determine the location of stocks which should be in the most convenient regions. Storage contracts between the government and trade may be concluded for the storage of the government's stocks.

Release of stocks

Criteria should be determined for the release of stocks according to the various policy objectives. Since the timely release of privately held stocks might be difficult when prices rise sharply, government control would be needed in such cases. In releasing stocks care should be taken to avoid harmful interference with domestic and international markets.

Renewal of stock

The maximum period for renewal without quality deterioration ranges from one to three years depending on factors such as the type of cereal and the climate. Storage losses should be minimized. Renewal of stocks is related to the "appropriate" price level for purchasing or releasing cereals. There should be safeguards against adverse effects on normal markets.

Financial aspects

The accumulation and storage of stocks place a heavy burden on the national economy as a continuing financial surplus cannot be expected from the difference between the selling and purchase prices of stock. Therefore it is important that there should be national consensus on the national stock policy.

Developing countries might obtain part of the necessary finances from international assistance.

Food aid

Food aid should be considered in the context of assistance to developing countries in general. Part of the stock might be used for food aid, in particular by exporting countries able to do so, but food aid does not appear to be an essential element of a national stock policy in all cases.

Relation to the International Undertaking on World Food Security

Since the Undertaking encourages stockholding in various countries it is desirable that as many countries as possible participate. A certain flexibility in national stock policies is called for in relation to the provision of information on stock policies and the intergovernmental consultations envisaged in the International Undertaking.

ANNEX L

Summary of FOOD RESERVE POLICIES FOR WORLD FOOD SECURITY: AN FAO CONSULTANT STUDY ON ALTERNATIVE APPROACHES 1/
by Jimmye Hillman, Gale Johnson and Roger Gray

Although carrying larger stocks for longer periods than the private market does is not likely to prove profitable or even self-liquidating, there are several other possible advantages which may accrue from a reserves programme. These include possible advantages of trade liberalization, price stability, political stability and humanitarian considerations. Further, stocks for commercial contingencies would confer benefits in excess of costs to the extent that the demand elasticity for grain is lower during periods of shortage than during periods of plenty. The case for world stocks may have been neglected in the past because calculations of benefits were based on estimates of demand elasticities derived from a period when large stocks were held, rather than on estimates appropriate to situations of shortage and minimal stocks.

1. Stocks for commercial contingencies

There can be two alternative forms of a stocks policy for commercial contingencies: (i) Internationally managed stocks or (ii) a coordinated system of nationally-held stocks. There are several advantages of an internationally managed stock: (a) the size and cost of effective total stocks would be lower than under coordinated national plans; (b) it would be less subject to unilateral violation; and (c) a firm and wide isolation from regular market forces would be more likely to be achieved.

Although an illustrative figure of 30 million tons has been used for the size of the stock for commercial contingencies, it is stressed that considerably more analysis is needed to provide a more accurate estimate of the size of stock that would be expected to hold price movements within a specified range at a given level of probability. The appropriate size of the contingency stock will depend on many factors: (1) the difference between buying and release prices (the degree of price stability desired); (2) the expected effect of the contingency stock on the stocks held by private persons, firms and governmental agencies; (3) the extent to which agricultural and food policies, including trade policies, permit domestic prices to reflect the changes in international prices; and (4) the effectiveness of the international food reserves for emergencies in meeting the production shortfalls in the developing countries.

The cost elements of a stock plan are well known - interest; the cost of storage facilities, including provision for maintaining quality of the grain; and cost of insurance. The critical factors determining costs per ton are the acquisition price, the period for which stocks are held and the size of stocks accumulated. In the study, an annual storage cost of US$ 12.50 per ton has been assumed, including a real rate of interest of 5 percent.

1/ Summary prepared by FAO Secretariat.

Consumers are the beneficiaries of stocks. Any producer benefit from price stability is completely swamped by the income implications of crop shortfalls in a stockless regime. The producer-consumer dichotomy may be translated into an exporter-importer dichotomy. As consumers benefit from stocks, the logical formula for cost sharing of stocks against commercial contingencies is to share costs according to recent consumption levels. Exporting countries would not be exempted from contributing to the costs but their share would be limited to that dictated by their consumption levels. If a reserve for meeting emergencies as described in the next section were to be created, most developing countries would choose not to participate in commercial contingency stocks, and the costs of such a programme would be borne primarily by the high income countries. Importing developing countries would still benefit through the reduced probability of very high grain prices on the international market.

Location of stocks in principle is most economical nearest the source of production. The major exporting countries with considerable excess storage capactiy and with good physical transportation and handling facilities, are the most logical location for world reserves. Modifications of this principle may, however, arise from political, logistical or economic considerations.

Of the two alternative criteria for acquisition and disposition of stocks - price levels or production levels - prices have an overwhelming advantage as they reflect market forces. Hence, the criteria for acquisition and release of stocks should be stated in terms of price, preferably for specific grains in specific locations. Procedures would be required that would permit adjustments in acquisition and selling prices as conditions change. In order to ensure the effective functioning of a price trigger, at least the major exporters (and preferably other countries as well) should refrain from manipulating market prices causing prices to move outside the buying and selling price range.

The purposes of a true world stock plan can only be achieved, and its benefits maximized, if stocks are firmly held against well-defined commercial contingencies. This means that the stocks should be acquired on pre-determined terms by an international agency, which would be empowered to purchase, hold and sell grains according to rules prescribed by the participating governments. The difference between acquisition prices and disposal prices should be relatively wide - in the order of 50 to 100 percent of the acquisition price. If the assumptions used in determining the size of the contingency stock and the disposal price turn out to be reasonably accurate, disposition could be through sales to any buyer when the disposal price is offered.

However, if the agreed disposal price is too low in the sense that in a given year all of the stock would be taken by the participating nations and market prices were expected to rise significantly above the disposal price, the agency would be faced with at least two alternatives: (1) selling to the participating nations in proportion to the contributions to the cost of the stocks until the stock is exhausted; and (2) increasing the disposal price, according to a procedure agreed upon in advance, to a level that would be anticipated to just exhaust the stock through sales to the participating nations.

2. International food reserves for emergencies

Food reserves for emergencies are defined as those reserves maintained to meet year-to-year variations in production in the developing countries that are of sufficient magnitude to have the potential for causing human suffering and misery. Such reserves are not for meeting continuing import needs of developing countries.

It is uneconomic to offset all variations in year-to-year production. The criterion for establishing the size of reserves is that the expected benefit should equal the expected cost for the last ton of grain added to the reserve. It is, however, recognized that it is not easy to determine what either the expected gain or cost will be at any given moment of time. In effect, the storage would result in the gain exceeding the cost approximately half of the time and the cost exceeding the gain approximately half of the time.

The size of emergency reserves for four regions (Far East, Near East, Africa and Latin America) and four individual countries (India, Pakistan and Bangladesh together, Philippines and Indonesia) are calculated on the assumption that there is free trade within the regions or countries but limited trade (as opposed to totally free trade) among the regions or countries or with the rest of the world. It is also assumed that the developing regions or countries would not vary net imports as a means of stabilizing consumption at the trend level.

The estimates of the size of reserves are based on trend production and consumption for 1975. The degree of security to be achieved is that implied by following a storage rule that equates the marginal cost and the marginal gain from storage. The marginal gain has been measured from the demand curves for grain estimated for the developing countries except that the price elasticity of demand has been assumed to be -0.1 for all developing countries.

Five different types of emergency reserves are considered:

(i) Emergency stocks held by developing countries or regions. The largest stocks would be required if each developing country held its own emergency stocks. As it is not possible to determine the required level of stocks which would guarantee with certainty the exact balancing of expected costs and expected gains, the size of the stock has to be related to probabilities. The optimal levels of emergency stocks for three different levels of probability - 50 percent, 75 percent, 95 percent - are estimated at 9.5 million, 20.7 million and 31.9 million tons, respectively, for the four countries and four regions. These totals, however, should be interpreted with great caution. There is no reason to expect, especially for the two higher probability levels, that the size of optimal carry-overs would ever be reached simultaneously in all the regions and countries. As the size distribution of reserves is skewed to the right, the annual average level of emergency stocks for the developing countries would be about 13 million tons.

(ii) World reserve for emergencies. Under this alternative, emergency reserves, which would be required to meet emergency needs of developing countries, would be held globally. The developing countries themselves would not hold any stocks in excess of working stocks. If economy of operation is a primary consideration, the stocks held in the world emergency reserve should be stored in the main exporting countries. As the intercorrelation of yields among the eight developing countries or regions is relatively low, the same degree of security of supply as that provided by individual storage programmes would require smaller average stocks for the world emergency reserve, i.e. between 7 million and 9 million tons.

(iii) National stocks held by the industrial nations. If the storage rules are the same as for the world emergency reserve, the size of the national stocks held by the industrial nations and earmarked for international emergency relief would be approximately the same. The main difference would lie in the location of stocks.

(iv) An international insurance reserve. Under this alternative it is assumed that there is an international insurance reserve that would make up all

deficits in production from the trend level that exceed a given percentage (6 percent is used but other levels could be assumed). For this, the size of the emergency reserves to be held by industrial nations to meet the shortfalls exceeding 6 percent of trend line production would be 3 million to 4 million tons. In addition to this, the developing countries would need to hold, on an average, about 6 million tons of reserves, assuming the sharing of grain supplies within each of the four regions. Presumably the size of emergency reserves may need to grow annually as production increases.

(v) International fund. An international fund could be used to carry out commitments of the type included in the international insurance reserve or of a similar nature. The feasibility of this alternative would depend upon the availability of adequate stocks for commercial contingencies in international trade or upon some significant degree of liberalization of international trade.

After considering the above alternative approaches to emergency reserves, the authors conclude that it is feasible to devise a programme of food reserves for emergencies that are likely to face the developing countries. The magnitudes of the reserves are not large, at least relative to stocks that have been held in the past. The most appropriate programme, considering cost, the sharing of responsibilities and the security provided, seems to be a commitment by the industrial countries to provide a guarantee of meeting all shortfalls in production relative to trend production, and the developing countries, either individually or by regions, accepting responsibility for holding optimum stocks to meet the expected variability in consumption that would remain.

3. Financing and cost sharing

If there are net benefits to the industrial countries, over and above their humanitarian interests, from the emergency reserves (e.g. reduced probability of very high grain prices), these benefits would be distributed on the basis of relative consumption. This would imply that under the approaches involving international action, the responsibility for cost contributions, the holding of reserves and the actual delivery of grain should be allocated on the basis of recent levels of grain consumption among the participating industrialized countries.

If reserves are held by developing countries or regions, they may be financed by loans from international lending agencies or, alternatively, part of the costs of acquiring and holding stocks might be paid from an international fund specifically for this purpose.

The remainder of the paper considers the relationship between the various reserves proposals in the light of the need for food aid and the vital interdependence between trade negotiations and stocks programmes. Finally, it is stressed that reserves, while very important, do not ultimately solve the problem. Production increases in developing countries; improved information on weather, production and trade; and consultative cooperation between nations - are all imperative, especially for long run progress toward world food security.