December 1966

EMO

NATIONAL DIGEST

Exercise TOCSIN 66
Senior Officers' Briefing
New Canada EMO Badge
Reflections on Civil Defence and Survival
Problems of Group Feeding in Emergency

CANADA EMERGENCY MEASURES ORGANIZATION

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Contents

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In addition to publishing articles which reflect Canadian Government policy the Digest may also publish articles by private individuals on subjects of current interest to the emergency measures programme. The views of these contributors are not necessarily subscribed to by the Federal Government.

Director General: C. R. PATTERSON *Editor:* B. L. PERRIER

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EXERCISE TOCSIN 66

Preliminary Report by A. P. Blackburn, Exercise Section, National Training Division, Canada Emergency Measures Organization.

Exercise TOCSIN 66, a national civil emergency planning exercise was held during the period October 12-21. The aim of the exercise was to further develop an operational capability for national survival in the event of a nuclear attack on North America.

This exercise was the fourth in a series of national exercises. Although a full-scale national exercise was planned in 1963, other federal government commitments developed which forced cancellation just prior to its conduct. Thus TOCSIN 66 was the first national exercise activity conducted since 1961. This year's exercise culminated a two-year cycle of both exercises and studies involving municipal, provincial and federal government personnel.

Since the last national exercise in 1961, there have been changes in organization and many changes in personnel designated to fill emergency government appointments. In addition, new concepts of operations have been studied and developed. In general, definite advances in national preparedness for emergencies have been made but the degree of progress and preparedness varied in the different regional (provincial) areas making up our vast country. These variations coupled with the differing physical operational facilities available in the ten regions created an interesting problem in the planning and preparation for TOCSIN 66.

Planning for the "actual conduct" of each provincial part in the exercise would have to be, as stated, in accordance with the degree of operational readiness reached and the physical emergency facilities available. It became obvious that to permit possible inter-regional and regional-central government activity, TOCSIN 66 would have to consist of co-ordinated but separate exercises at the central level and within each of the provinces. Each region-province developed its exercise against a common exercise setting, attack pattern and exercise timings. The necessary co-ordination was achieved by the use of planning cells at both central and regional levels. Centrally, material required for the conduct of the exercise was produced and processed through an Interdepartmental Exercise Working Group comprising representatives of the participating departments and agencies. Similarly, in the regions exercise planning groups comprised federal-regional representatives and representatives of the provincial government. Liaison visits between central and regional levels further ensured a co-ordinated and productive exercise activity in which the emphasis, generally, was placed on orientation and familiarization.

In Ottawa, at the central level, the exercise was conducted in two phases. The first phase—a nine-day pre-attack setting—when plans and procedures of government in response to a deteriorating international situation were reviewed. This portion was conducted in peacetime locations with a Central Responding Cell available for any necessary response arising from the over-all national exercise activity. This cell maintained the necessary momentum in the diversified central and regional activity. During this period, exercise news releases were issued to regions and departments, intelligence summaries were issued and the alert measures were considered and studied. An Exercise Cabinet comprised of senior Canada EMO and selected departmental representatives met almost daily as the exercise developed, to consider actions arising from planned incidents and alert measures.

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Departmental planners at an Exercise Cabinet Meeting.

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Some members of the directing staff, Exercise TOCSIN 66 (left to right): Mr. B. P. O'Connell, Chief, National Training Division, Canada EMO; Mr. A. P. Blackburn, Head, Exercise Section; Mr. J. T. Macleod, Exercise Section; Capt. W. S. Fowler, Department of National Defence.

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Exercise TOCSIN 66 briefing for senior officials, at the Canadian Emergency Measures College, Arnprior.

The second phase of the central level activity coincided with the exercise attack and consisted of a non-operational manning of an exercise Headquarters at the Canadian Emergency Measures College, Arnprior, Ontario and certain relocation sites. During this full-scale portion of the exercise in a one-day program, emphasis was placed on familiarization and orientation in the form of briefing presentations and departmental discussions. This activity was attended by Deputy Ministers, Assistant Deputy Ministers and other officials designated for employment in the emergency government organization.

As mentioned earlier, regional exercise activity was planned in accordance with the state of training, preparedness and operational readiness. This activity varied from full-scale manning and operational type exercises conducted in completed Regional Emergency Government Headquarters, to study group activities coupled with briefing and orientation in other regions.

All regional-provincial groups were requested to consider specific problem areas or to undertake certain special projects. For example, Alberta Region evaluated the use of closed circuit television within the Regional headquarters complex as a means of rapid dissemination of operational information. Other regions examined such subjects as communications, reception, immediate post-attack operations and problems of "self-help and mutual aid". Associated with the main exercise but not concurrent, and Exercise RAIN-EX I was conducted which involved the exchange of radiological defence information between U.S. Region 8 and the British Columbia Region.

At the time of publication, all final reports on the TOCSIN 66 exercise activity had not been received, studied and consolidated. As the varied aspects of the over-all exercise are concluded, it is intended to report on some of the more interesting results and conclusions reached from a study of central and regional exercise activity in a future edition of the Digest. ▲

SENIOR OFFICERS' BRIEFING
on
Civil Emergency Planning

by

J. P. Brennan, Training and Development Section, National Training Division, Canada Emergency Measures Organization.

International and national geopolitics, foreign policies and strategies presented by recognized authorities provided a background to a two-day Senior Officers' Briefing on Canadian civil emergency planning recently when Canada Emergency Measures Organization held the first forum of its kind at the Canadian Emergency Measures College, Arnprior, Ontario.

Attended by some 125 senior officials, including ministers and deputy ministers of the federal government, provincial deputy ministers and senior government authorities from all Canadian provinces, the high level symposium was held to promote interest in emergency planning functions and develop better understanding of current emergency measures plans and programs. Against analyses and forecasts of world affairs by the internationally recognized speakers, the briefing session developed and discussed Canadian activities related to planning for survival should North America come under nuclear attack.

Following individual presentations by each of the speakers, questions from the floor permitted audience participation in each specific subject and allowed free discussion of Canada's relative position. As a climax to the thought-provoking studies, the briefing session ended with a panel on "The Shape of a Possible Future Conflict" in which short presentations were given by experts in various fields and questions from the audience were discussed.

During the first day, Dr. R.H. McNeal of the University of Toronto spoke on Soviet Foreign Policy; Dr. Harold C. Hinton, Institute of Sino-Soviet Studies, George Washington University, gave his views on Red China's Foreign Policy. Mr. Melvin Conant of the Standard Oil Company, New York, then outlined his analysis of United States' Strategy and Mr. John Gellner, Editor, Canadian Commentator, discussed Western Alliance Strategy.

On the second day, Dr. G. Lindsey of the Defence Research Board spoke on the Strategy and Economics of Intercontinental Missile Defence and Dr. Horace Beach of Dalhousie University dealt with Management of Human Behaviour in a Disaster.

The scene was then set for a realistic appraisal of emergency measures planning in Canada. Mr. C.R. Patterson, Director General of Canada EMO, briefed the conference on this subject, the progress that has been achieved to date, future developments, and the necessity to achieve a high standard of professional competence and leadership in the field of civil emergency measures planning.

The panel discussion concluded the formal session. Members of the panel were Dr. Beach, Mr. Gellner, Mr. Patterson (Chairman) and three officers of the Defence Research Board: Mr. A.M. Pennie, Deputy Chairman, Dr. R.J. Sutherland, Chief Superintendent, Operational Research Establishment, and Dr. G. Lindsey, Senior Operational Research Scientist.

In a closing address in which he thanked the speakers and the audience for their participation, Hon. C.M. Drury, Minister of Industry, stated "preparedness contributes to lowering the risk of war and certainly to national survival in the event of war. In this setting, we must develop a national framework of professional planners who will maintain emergency plans at the highest operational peak".

In response to request by the Digest the main speakers were kind enough to summarize their presentations for publication. Following are the summaries by Dr. McNeal, Dr. Hinton, and Mr. Gellner. The remaining summaries will be published in the February 1967 edition of the Digest.

Soviet Foreign Policy and the Three Worlds

by

Dr. R. H. McNeal

Any general discussion of Soviet foreign policy must take some position on the always controversial problem of Communist ideology as a factor in international relations. Too often, however, this problem is approached as a choice between ideology or power, which overlooks the basic concern of Leninism for the acquisition and maintenance of power; or as a choice between Communism and Russian nationalism, which overlooks the automatic identification of national interest and social class interest in the minds of Soviet leaders. Instead of such approaches, I suggest that we regard Communist ideology as the set of assumptions that provides Soviet policy-makers with a vocabulary for the understanding of world affairs.

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It offers not a blueprint or timetable for policy, but a set of labels that help to identify alleged friends and enemies and, hopefully, tactical advantages and disadvantages. Communist ideology leads Soviet leaders to assume the existence of a long-term struggle with "capitalism", which adds tension to the confrontation of great powers that would inevitably exist in a world of nuclear arms. But the ideology itself does not dictate any necessary nuclear disaster, much less any timetable for nuclear aggression.

Having sketched my basic position on this fundamental issue, I should like to relate it to Soviet foreign policy with respect to the three main political areas of the world, the so-called "imperialist" states, the Communist states other than the Soviet Union, and the "third world" or former colonial and semi-colonial countries. In the case of the "imperialists", the Soviet have remained pretty consistently suspicious and hostile. They have thus far not been able to envisage a stable order of world peace in which "imperialist" powers remain, and they are deeply suspicious of western intentions toward Communism. This consistency runs quite strongly from the time of Stalin to the present. While the Soviet have been willing to imply to the West that Stalin's death brought a new era in Soviet foreign policy, permitting the NATO countries to adopt a more relaxed attitude, their main policy statements have never renounced Stalin's attitude toward "imperialism" and have even noted explicitly that "peaceful co-existence" has always characterized their policy. Stalin, while capable of committing calculated aggression, did not court disaster in expansionist adventures. It was he who supported the first major post-war "peace campaign" as a possible line of retreat during the early cold war and he who withdrew from the Berlin Blockade and began the liquidation of the Korean War. His successors have been at times somewhat more reckless than Stalin, especially in trying to utilize the tactic of atomic blackmail, but have in the end seemed rather like him, withdrawing from this tactic after its climatic failure in the Cuban crisis of 1962.

What has changed is not the ideological hostility but the degree of technological-military parity between the Soviet Union and the "imperialists". Until the very end of Stalin's days, the Soviet Union had massive conventional forces compared to the West but little or no atomic capability, presenting Stalin with a highly uncertain, unstable correlation of forces to assess. This may help to explain his gradualist approach to the

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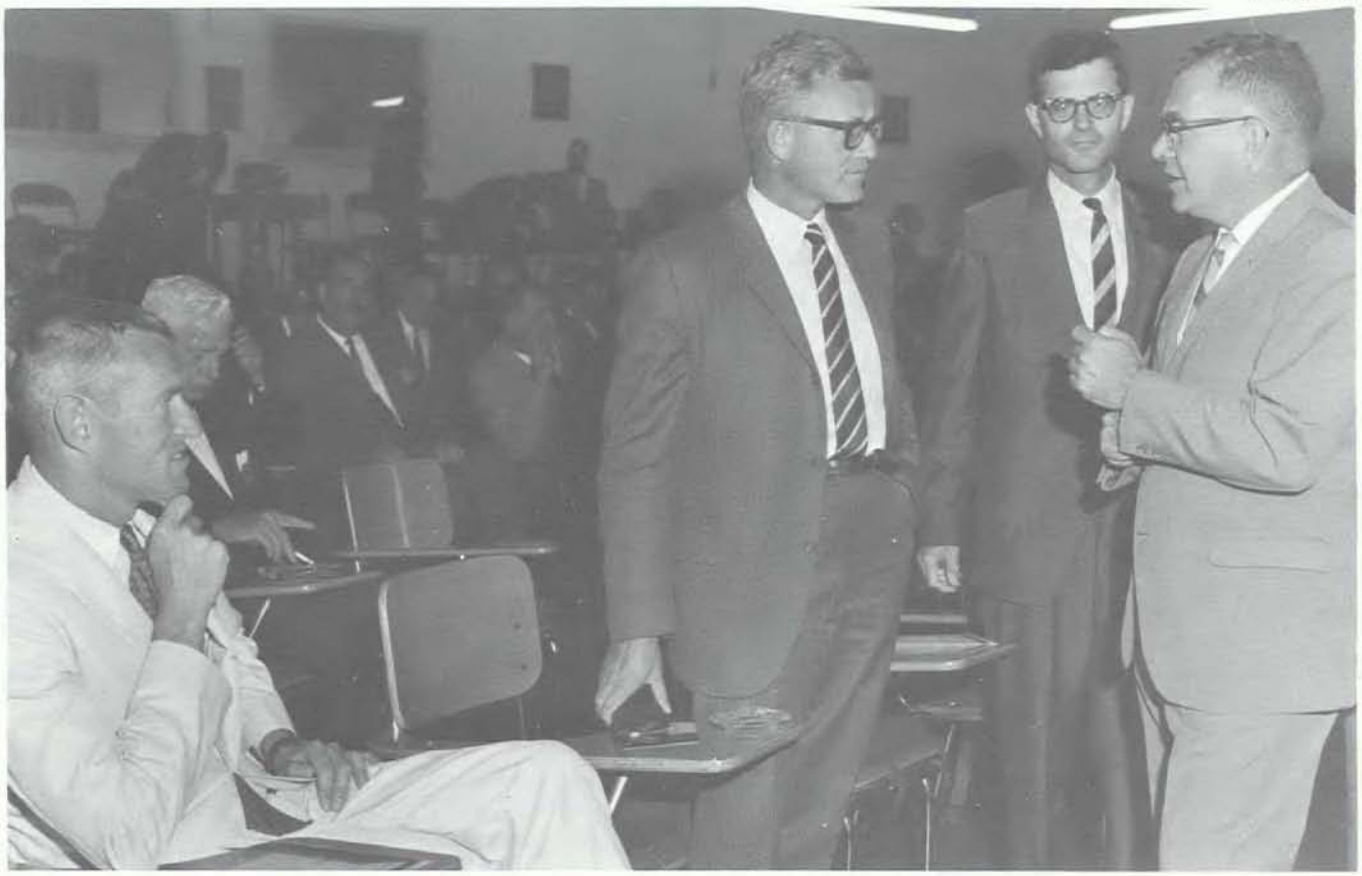

Three of the speakers at the Senior Officers' Briefing; Dr. R. H. McNeal, University of Toronto (seated); Mr. M. Conant, Stannard Oil Company, New York; and Dr. H. C. Hinton, George Washington University, Washington, D.C.; seen with Mr. C. R. Patterson, Director General, Canada EMO.

Communization of East Europe and his reliance on expendable proxies in the Far East. The development of a modern weapons system in the Soviet Union, started by Stalin and coming to fruition under Khrushchev, has produced not so much a détente as a stabilization of hostility on a fairly calculable, manageable footing.

Concerning the Communist states formed since 1945, Communist ideology promised much to the Soviet Union. Assumedly the relations between these "proletarian" states was to be "fraternal". Actually, the experience of the past 20 years indicates that the shared ideological label provides more fuel for quarrels than basis for agreement. The very absence of a recognized pattern of special inter-Communist party relations has been a source of weakness. The party officials in the Soviet Union who deal with counterparts in other Communist countries are experienced and zealous in finding "deviations" but make poor conciliators. The main attempt to organize a general, multi-lateral conference of Communists, the gathering of representatives of 81 parties in Moscow in 1960, failed to heal the rifts between the Soviet and various foreign parties and does not seem likely to be attempted again.

Despite the assumption of "fraternity", Soviet relations with other Communist states have been beset by territorial, economic and military issues, which may be illustrated by Chinese claims on the Soviet East, the attempt of the Soviets to enforce Chinese subordination by the withdrawal of technical-economic assistance, and the unwillingness of the Soviet to satisfy Chinese desires for atomic weapons. The immense bitterness that has appeared at one time or another between the Soviets and other Communist states should help to undermine confidence in the Marxist-Leninist assumptions about the nature of world politics, and is the most optimistic indication leading toward ideological disarmament.

In the case of the former colonial countries, Communist ideology, since Lenin, has posited an alliance of Communists and colonial nationalists against "imperialism". However, Stalin took a very cautious approach to the application of this tactic in the postwar years, and it was perhaps the major innovation of his successors that they began a campaign to build up good relations with some Asian, African and Latin American states including a substantial program of military and economic assistance. At minimum this aimed at depriving the United States of supporters and bases, and at maximum it was hoped that the new governments would evolve into actual Communist states. The label "national democracy" was used to describe a pro-Soviet, anti-imperialist regime not actually run by a Communist party but possibly capable of conveying power to the Communists, somewhat as Castro did in Cuba. However, this expectation has received serious jolts in the overthrow of such promising "national democratic" leaders as Ben Bella and Nkrumah and the establishment of military, not Communist, rule under the symbolic leadership of Sukarno. Moreover, such friends and beneficiaries as Nasser and the Indian leaders have not shown signs of moving toward Communism at home or toward greater dependence in foreign affairs. Thus, the attempt to use manoeuvers among the countries of the "third world" as a major weapon against "imperialism" seems to have at present produced a state of considerable confusion and much grounds for doubt concerning the usefulness of the approach.

In sum, I should say that Soviet relations with "imperialist" countries have been characterized by stabilization of hostility; with other Communist countries by a disastrous collapse of the fraternal ideal; and with the former colonial countries by the development of increasing confusion concerning ends and means. From the point of view of nuclear disaster, I should say that nothing has developed that removes the potential threat, but that this kind of disaster would not occur as a deliberate Soviet effort to fulfil the goals of its foreign policy.

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The members of the panel at the Senior Officers' Briefing, from left to right: Dr. G. Lindsey, Defence Research Board; Dr. R. J. Sutherland, Defence Research Board; Mr. A. Pennie, Defence Research Board; Mr. C. R. Patterson, Canada EMO; Mr. J. Gellner, "Canadian Commentator"; Dr. H. Beach, Dalhousie University.

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Red China's Foreign Policy

by

Dr. Harold C. Hinton

China's size, population, geographical position in relation to the rest of Asia, and cultural tradition have combined to make it always a major, and yet never quite the dominant, power in Asia. Other considerations contributing to the foreign policy of Communist China are China's numerous humiliations in modern times at the hands of foreign powers, its political disunity and weakness and its consequent tendency to rely on foreign ideologies (adapted and sinicized, nevertheless), the emergence of "guerrilla communism" in the 1930s, the massive Japanese invasion between 1937 and 1945, and the Communist victory in the subsequent civil war with the Nationalists without significant Soviet support or intervention.

The major political characteristics of Mao Tse-tung, and correspondingly his enormously important contributions to pre-1949 Chinese revolutionary history, may be described as his "revolutionary romanticism", his China-centeredness, his skill at intra-party maneuvering, and his skill as a politico-military strategist manipulating the three basic techniques of nationalism, class struggle, and revolutionary warfare. Since 1949 he has been not only the leader of his country but also to a considerable extent the indispensable symbol of its national unity. After making the initial decision (in or about 1949) that Communist China must "lean to one side", toward the Soviet Union, he later (about 1960) generated sufficient hostility toward it so that he has led a political struggle against it of almost equal intensity with that which he has conducted against the United States. Thus Communist China has increasingly adopted a posture of what it calls "self-reliance", which amounts to a strategy of struggling by primarily political means against both the superpowers, mainly in the third areas, to the accompaniment of an increasingly radical domestic policy designed to recapture if possible the spirit of the civil war days and generate a revolutionary momentum such that it will survive Mao's death.

The first objective of Communist China's foreign policy is to attain security against strategic or local attack, including border probes. For this purpose it has been working since about 1956 to create its own nuclear deterrent, which, however, will not be operational for some years to come. In the meantime, Communist China has hoped that it could rely on Soviet strategic protection under the Sino-Soviet alliance of 1950, but for a number of reasons that include Soviet fear of the United States and distrust of China (indeed, an actual Sino-Soviet border dispute of substantial proportions) such support has apparently ceased to be available in the most likely situations, and Communist China no longer counts on it for practical purposes. The Chinese accordingly employ, normally but not invariably, a measure of tactical caution, especially in situations in which the United States is or might become involved. Finally, the Chinese on occasion try to use their large conventional forces, which they, therefore, refuse to limit under any conventional disarmament agreement, to blackmail the continental Asian countries by holding them hostage for the good behavior of the United States (or, in the case of Outer Mongolia, the good behavior of the Soviet Union). Because of the military risks and political consequences involved, Communist China is unlikely to do much more than practice what may be termed implicit or tacit nuclear blackmail, to the same ends, when it acquires an operational nuclear capability.

The second major objective is unification. It is unlikely that China seriously intends to regain lost territories formerly held, tenuously in most cases, by the Manchu empire, except perhaps for Outer Mongolia and some smaller areas along its frontier with the Soviet Union.The main context in which the question of unification arises is Taiwan, the seat of the rival Nationalist government. Since the Communists know they cannot take Taiwan by force under existing conditions, especially in view of the virtual absence of Soviet support, they rely primarily on a variety of political ploys aimed at the Nationalists and on the hope that the United States will lose its bases in Japan and Okinawa, with the result that the Nationalists will seek an accommodation.

The third major objective is influence. In the first place, Communist China undoubtedly aspires to some form of hegemony in Asia, beginning with the exclusion of the two major extraregional powers, the United States and the Soviet Union. Since open aggression would be militarily risky and economically and politically disadvantageous as a means of moving toward this goal, it appears improbable. Instead, the Chinese appear to want the local Communist Parties to come to power via Chinese-style revolutionary warfare and with enough Chinese aid and support to render them pro-Chinese, and yet not enough to expose Communist China to serious risks and, therefore, not enough to give it outright control. The Chinese give aid and support to such regimes and movements, such as that of North Vietnam, and also practice "aggression by seepage", or elaborate subversion, against accessible countries such as Thailand. With similar methods, the Chinese also hope to promote leftist, and ultimately Communist, revolutions in the underdeveloped areas as a whole, not only to advance the cause of Communism

but to distract the United States from the Far East by involving it in "people's wars" elsewhere. The Chinese also aspire to a leading role in the international Communist movement, at least to the extent of tearing down the Soviet Union to a status somewhat lower than their own, but they appear to have no illusions that they can ever control the movement. Finally, they aspire to the ultimate status of a superpower, with missiles, thermonuclear weapons, and so on, an objective unlikely to be achieved to the full. Chinese influence has suffered serious setbacks on all fronts since early 1965, largely because China overestimated and overplayed its hand, but there are no signs yet of creative rethinking in Peking.

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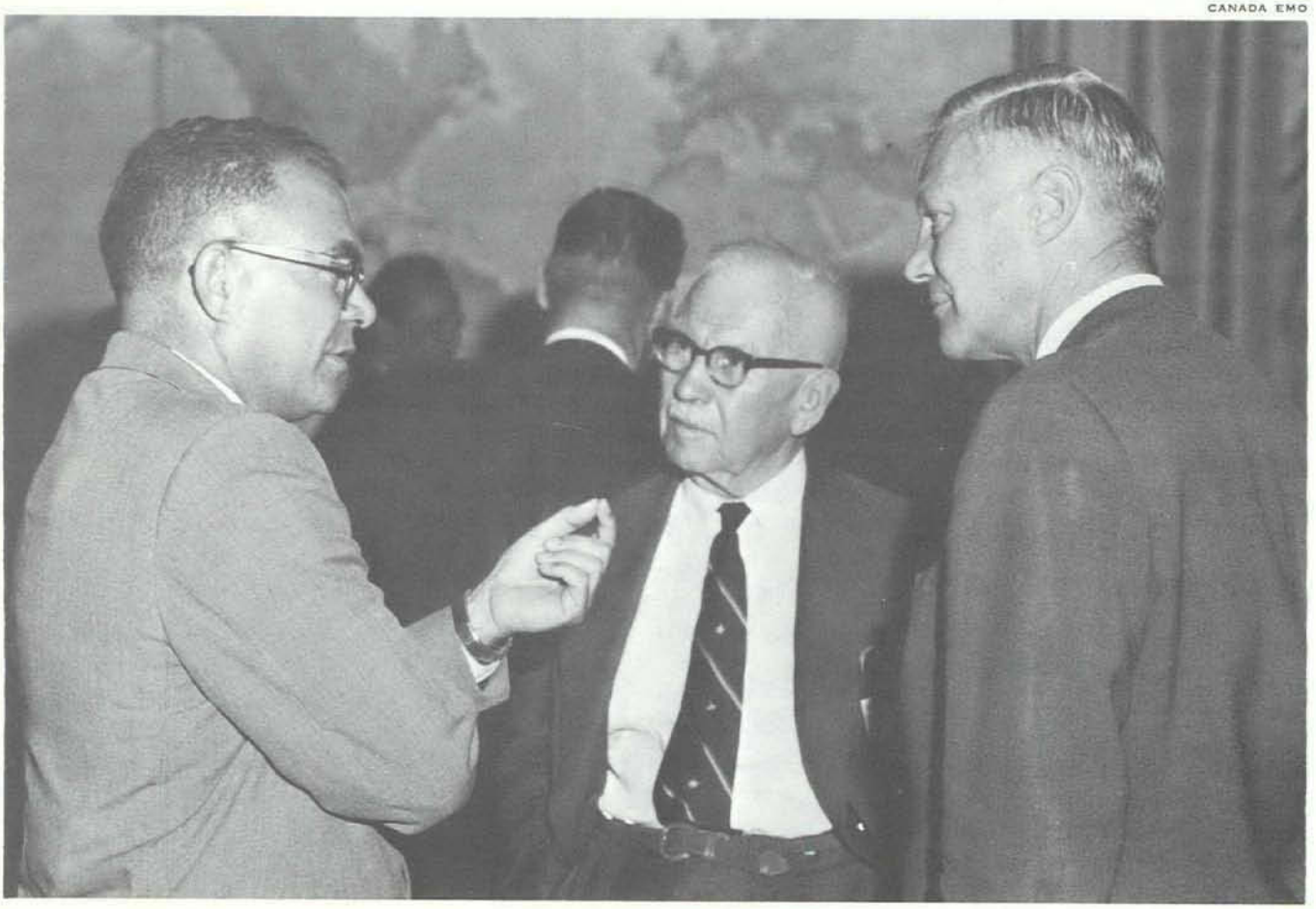

Between sessions of the Senior Officers' Briefing, Mr. C. R. Patterson (left) is seen discussing with Major-General F. F. Worthington, former Director of Civil Defence (centre) and the Honourable C. M. Drury, Minister of Industry.

The Crisis in NATO

by

Mr. John Gellner

The crisis in NATO is caused by two contradictory attitudes to the alliance: disappointment that it has not accomplished more; conviction that it could not possibly have achieved more than it did and that it consequently has run its course. There are, of course, shades of opinion between these two extreme outlooks, but basically they represent what members think of NATO. Representative of the two attitudes are Canada on one side, France on the other.

Canada from the beginning was looking at NATO as something that was more than a regional military alliance for the defence of Europe. We imagined it as the basic organization from which Atlantic unity may spring. Consequently, Canada barreled through —against opposition mainly from the United States and Great Britain—Article II of the North Atlantic Treaty, which promised co-operation in the economic and social fields, and even, in a somewhat veiled

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fashion, in the political. Article II has been called the "Canadian article", and reference has been made to Canada's alleged "Article II complex". Several attempts were undertaken to make Article II really operative, the last in the report of the "Three Wise Men" (Lange of Norway, Martino of Italy, Pearson of Canada) in 1956/57. Nothing came of it. By the time the United States got around to seeing in NATO more than a military alliance, the European attitude to NATO had changed as a consequence of the establishment of purely European, as distinct from Atlantic, institutions. Having foreseen that NATO would not be able to operate effectively for a long time (and in the absence of an urgent threat) unless it were given a wider content than the purely military, Canada and some other allies are disappointed: for them, NATO did not fulfil its initial promise.

France, on the other hand, never expected NATO to do more than protect Europe from Soviet aggression at a time when the latter was possible, and indeed probable. For the French it was enough that NATO was the device by which the United States was tied to Europe in a manner acceptable to American public opinion. They may have welcomed a broader NATO with political functions—and suggested it several times between 1958 and 1962, without finding any response where it mattered, in the United States and in Great Britain—but when this did not happen, they simply began to view NATO as a military alliance which pretty well had run its course. They are not disappointed with NATO in its present form, as we are, but rather bored and slightly annoyed with it.

NATO may have drifted along as before had it not been for the failure to solve the nuclear problem as it affected the alliance. Neither the French nor the Germans believe that a limited war in Central Europe is really possible. Their interest is thus entirely in deterrence. As the only conceivable enemy is the Soviet Union, the second strongest nuclear power in the world, the deterrent must be nuclear and of a kind to discourage a major adversary with a large nuclear capability. The Soviets themselves, as far as one can judge from pronouncements of Soviet leaders and from Russian military literature, seem to be convinced that any war in which they might be directly involved would necessarily be a nuclear war, with no holds barred. The task, as the French and the Germans see it, thus is to confront the Soviets with such a nuclear

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Among those in attendance at the Senior Officers' Briefing (front row, left to right): the Honourable J. J. Greene, Minister of Agriculture; Major-General M. R. Dare, Deputy Chief of Staff, Reserves and Survival; the Honourable C. M. Drury, Minister of Industry; Mr. E. W. Laver, Director, Programs Branch, Canada EMO.

counter-threat as would deter them from using their nuclear might for politico-military coercion or for war. Whether or not the Soviets have at present any intention to coerce, let alone to attack, is irrelevant. The question is what will deter them, whatever their intentions.

Here the French—and the German, although the latter is expressed more cautiously—standpoint is diametrically opposed to the American. The latter do not believe that deterrence through the threat of massive nuclear retaliation to any kind of aggression is credible and thus consider such a threat futile. They propose to discourage attack by showing both their readiness and their capability to oppose attack by a variety of means, beginning with the most moderate, and escalating —above the "nuclear threshold", if necessary—as the situation may demand. This is the sense of the American policy of "flexible response under central control" which, because the Americans hold the decisive nuclear weapons, is now the unwritten, but of necessity accepted, military policy of NATO.

The Germans can but nibble away at the American policy, by trying to limit the time and the area where "flexible response" will mean total reliance on conventional weapons; the French have decided to disassociate themselves from it. Their nuclear *force de frappe* now acts as a deterrent to any war in Central Europe insofar as the French threaten to use it right from the outset to force immediate escalation above the "nuclear threshold". In other words, they are trying to deter aggression of any kind by serving notice that they would not allow it to remain conventional if it occurred. This puts a spanner into American military policy for Europe. Hence the NATO crisis.

There are obviously two things which have to be done to make NATO again an effective instrument of the policies of the West.

On the military plane, a common strategy must be agreed upon which is acceptable to all the allies. This means reconciling the U.S. with the French and German outlook on the defence of Europe, and especially determining to everybody's satisfaction what constitutes credible nuclear deterrence. The Germans will also have to be given greater assurance that the U.S. (or U.S.-sponsored NATO) nuclear umbrella will really protect them from aggression from the East—any aggression.

On the political plane, the content of NATO's brief will have to be enlarged. A regional military alliance for the defence of Europe is, under present circumstances, not an urgent enough requirement to ensure smooth co-operation. A political consortium of the West based on the North Atlantic Treaty could perhaps still be established.

It is certain that without reform, by simply maintaining the Treaty of 1949 in its original form, NATO must become more and more irrelevant as a power instrument. It would survive even so, no doubt, at any rate on paper, but not as a really worthwhile institution. ▲

EDITOR'S NOTE

The new Canada EMO badge, approved by the Hon. C. M. Drury, Minister of Industry, to replace the Civil Defence crest, forms the centrespread of this edition.

It is reproduced in official colours on paper stock suitable for framing and centre-perforated for easy removal.

Mr. Alan B. Beddoe, a recognized authority on heraldic matters in Canada, designed the badge.

REFLECTIONS ON CIVIL DEFENCE AND SURVIVAL

by Wing Commander Sir John Hodsoll, C.B.

Sir John Hodsoll has compiled in twenty chapters his personal views on the important things which should and need to be done to develop a healthy civil emergency programme. The Canada Emergency Measures Organization is indebted to Sir John for his permission to reproduce his material in the EMO National Digest. It is being reproduced in serial form. Chapters 1 to 16 appeared in previous issues. Chapters 17 to 20, appearing in this issue, complete the publication of Sir John's work.

Chapter 17

Medical and Public Health Problems

There are a number of important medical problems to be considered, of which two of the outstanding are the care of casualties and the maintenance of public health.

For casualties, the organization divides itself, as it did in the last war, into the provision of doctors, nurses and other trained staff for the public and the armed services; the provision of doctors and qualified first aid personnel for the civil defence organization; and the emergency hospital services which will have to be on a pooled basis between the public, civil defence and the armed services.

Whether a country has a state medical service or not, it is clear that the Government will have to be responsible for the direction of the whole service, including all personnel. In no other way will it be possible to handle the situation. The medical service, on the civil side, should come under the Ministry of Health or equivalent Government Department, such as the Department of Health and Welfare in Canada.

There must be enough doctors and other qualified staff to deal with the current needs of the public, and they will have to conform to whatever plans there may be for evacuation from certain target areas. It is important that doctors and staffs have a knowledge of the effects of radiation and fallout as it is essential to prevent the hospital and other services being bombarded with peope who think they are suffering from its effects, and may not in fact have been exposed at all, or only to a mild degree.

The medical side of the civil defence services will need doctors, nurses and qualified first aid personnel. Since there will certainly be a shortage of fully qualified professional staff, it will be necessary to use the services of everyone who has some qualifications and who can be pressed into service. The actual form of the organization will vary with countries, but there will be a need for mobile casualty and medical units to sort out the casualties and give as much medical attention on the spot as may be necessary and possible. Such units must act as a screen to the hospitals and should have the necessary knowledge of the radiological aspects of nuclear attack. These forward units must, in no circumstances, be turned into surgical units where operations are carried out. If this is allowed they will quickly become miniature front line hospitals and find themselves congested with cases which cannot be moved. In this way, the whole purpose of these forward units would be destroyed. They must also, as far as possible, send home or to some other place, all persons who can be dealt with by home nursing, otherwise the hospitals will rapidly be swamped.

In view of the number of casualties that must be expected, the capacity of the hospitals will be stretched to the limit and probably beyond. Although it is rather a brutal thing to say, they will have to concentrate their efforts on those casualties who have a reasonable chance of recovery. This does not mean that other casualties should be neglected. They should be made as comfortable as possible and helped, but with the burden on the whole medical service, this is the only answer.

There will be need for a very large number of personnel of both sexes trained in first aid, who should also have a working knowledge of radiological effects.

The radiological aspects of the problem have been emphasized—the other medical and first aid knowledge will be of the normal kind—because the danger is an invisible one; in consequence, many people will assume they have been affected, rightly or wrongly, and they can easily cause the whole organization to break down, unless means exist by which those who are unaffected can be reassured. This may have to be done on rather a rough and ready area basis; that is to say, the civil defence service concerned will have to monitor the areas where contamination is suspected, giving a positive or negative report. If the former, the degree of contamination must be stated. This action should take place as soon as possible after an attack, since questions of evacuation may arise, if contamination is heavy. Some general rules should be promulgated as to the likelihood of contamination based on the degree of protection which people have been afforded by their shelter, house or other sort of cover.

A lot of information is already available on this subject, as a result of studies which have been made, showing, in relation to the direction of the fallout cloud, the protection afforded by houses if in a row, if detached, semi-detached and according to the width of the street or road. It must always be remembered, in this connection, that the surface wind is not necessarily the correct guide, since fallout may come down from a great height and be subjected to the influence of the upper winds and convection currents.

The ambulance service is an integral part of the civil defence medical and first aid organization. It may be linked with the emergency hospital service or may be independent, in accordance with national and local practices. If mobile columns form part of the organization, an ambulance section should be included.

The problem of hospitals is not easy. Those in target areas should obviously be evacuated, but there is, in most countries, an acute shortage of hospital accommodation. The risk of fallout is an added complication; every effort will have to be made to concentrate hospital accommodation in those areas least likely to experience heavy fallout and it seems inevitable that resort must be had to all manner of improvisation, including mobile hospitals. The ideal is to locate hospitals underground; this will obviously be impossible in many areas, quite apart from the financial aspects. Emergency hospitals will have to be sited in well constructed buildings, and one of the big difficulties is that modern buildings are generally designed and constructed to give the minimum amount of protection to any form of attack, which will set heavy limitations on the selection of suitable places. Ships could form an important alternative to buildings, since they may offer better protection and could be moved away from danger spots. Where inland waterways exist, the use of suitable craft might offer possibilities. Hovercraft, as they develop, could provide a useful method of evacuation and also evasion of the worst of the fallout cloud.

It might be possible to get co-operation from neutrals or other members of an Alliance which might have better facilities, might not have suffered attack or only on a lesser scale and where the fallout problem is less acute. The International League of Red Cross Societies might also be able to help.

Every practicable alternative should be explored which will help to solve this extremely difficult problem. Many different systems may have to be used to find the accommodation that will be needed. The facilities of the survival areas must be used to the full.

All hospitals should have decontamination facilities and monitoring units. There should be as much screening of casualties as possible before reaching hospital, but it is inevitable that many will arrive unscreened, and a proportion will have to be cleansed and provided with fresh clothing.

Fresh water supplies will be essential and it might be a wise precaution to provide hospitals with emergency filtration units such as are used by the Army.

Mobile surgical units will be important in helping to deal with casualties, as there is bound to be shortage of surgeons and other qualified personnel. Such units should be self-contained as regards feeding, sleeping and living, as they may have to operate in areas where such facilities are in very short supply or non-existent.

Home nursing and first aid are an essential complement to the hospitals. All patients who are capable of being looked after at home will have to be discharged from hospitals, if an emergency arises. A knowledge of home nursing should be regarded as an essential part of self-help and should be as widely taught in peacetime as possible. It is always useful, as is a knowledge of first aid.

The other major problem is the maintenance of public hygiene, which is very much the concern of the medical authorities, and will be of the highest importance when normal arrangements are badly disrupted. There will probably be a lack of water and all the normal sewage arrangements.

The military authorities should be especially helpful as they are used to dealing with problems of this kind in the field, and have had much experience, at the end of the war, in dealing with refugees on a large scale. Conditions may be very similar, even in survival areas where damage is slight.

In the first place, it will be important for the public to be taught how to make emergency sanitary and garbage disposal arrangements, and such instructions should form part of the householder's handbook.

Secondly, local authorities should know to deal with this question on a field or emergency basis, as must any establishment or undertaking where people may be working and have to remain during the fallout period.

Apart from the disposal of sewage and garbage, there are also problems of the preservation of food supplies and pure water, to which reference has already been made. Life today is governed by so many amenities that, if people are suddenly thrown back on their own primitive resources, they may temporarily, at any rate, be lost with serious consequences to health and the loss of valuable supplies.

In a moderate climate such as Britain enjoys, the difficulties are less severe than in hot climates although in winter, in countries like Canada, special problems may arise.

There are, therefore, a host of questions that will need study in the light of summer and winter conditions, and the artificial and natural situations which will all tend to complicate the answers.

As has been said, field sanitary and garbage disposal arrangements may be necessary, as well as mobile water carriers and purification plants as used in the Army. Where mobile columns form part of the civil defence

organization, special units might form an integral part or be attached to them as independent units. Ideally, survival areas should have reserves of any special kinds of equipment that might be required.

A great deal of improvisation will be necessary, and there are a number of types of liquid bulk carriers on the roads which could be pressed into service as water carriers.

Local authorities will have an important part to play in these emergency arrangements, and their planning should be under the direction of the medical officer of health and his staff, in co-operation with the sanitary inspectors and those who work with them.

In the aftermath of nuclear attack, one of the greatest dangers might be the spread of disease and the starting of epidemics, which could have devastating effects due to lack of proper facilities to deal with them and the lowered resistance of the population. The obvious answer is prevention.

As in other spheres which have been discussed, stockpiling will form an important part of the survival precautions. A list of basic drugs and other essential medicaments should be prepared and a three-months' stockpile should be accumulated. Some of these supplies have a limited life, and a turnover will be necessary, if they are to be kept fresh. This could be arranged through chemists or manufacturers. Attention is again called to the arrangements made by one country of subsidizing manufacturers to carry reserves of supplies, so that a turnover can be assured. Chemists should form an important part of the emergency medical organization, as many people go to them for remedies of all sorts. They should be given some basic training and advice about the problems they are liable to meet, and especially where medical attention is essential. They should be urged to carry reserves. A number of them will have to be enrolled in the civil defence organization.

A reserve of surgical supplies will be essential as heavy losses of equipment must be expected. This provision should be a Government responsibility and storage should be arranged in survival or other non-vulnerable areas.

Where an Alliance exists, such as NATO, it would be advisable to agree lists of drugs and surgical instruments which are common to all countries, so that if necessary there could be mutual aid. This arrangement would not prevent additions to this list to meet special climatic or other conditions. But as with everything else, survival will depend on the ability of countries to build up their own reserves. In all these arrangements the military authorities must be closely associated, as resources on the Home Front will have to be pooled.

Chapter 18

Military Relations with Civil Defence

It has already been noted that, in some countries, the military authorities have a direct responsibility for important parts of the civil defence organization, e.g.: Canada and the United States, while in others they provide the mobile columns, e.g.: the Netherlands, and until the abolition of conscription, Great Britain.

Whether the Army definitely undertakes certain commitments or not is a matter for each country to decide in the light of its own circumstances. The decision will, in any case, be a political one. It is not proposed to argue the merits or de-merits of this arrangement. A strong case can be made out for a wholly military, a partly military and partly civil set-up and for a wholly civilian one.

Some countries have a strong psychological objection to putting civil defence under the military authorities, e.g.: Denmark; in others reverse opinions are held.

There is, however, one point to be made. The greatest care is necessary to see that, if the Army—neither the Navy or the Air Force would be suitable for obvious reasons—is to be responsible for a part of the whole of civil defence, it does not become the poor relation. The work of civil defence is, in most respects, greatly different to that of a fighting service; it would not be surprising if the undertaking of this form of passive defence was not very popular on financial and other grounds.

Although it may be controlled by the Army, there is a great deal of civil defence that must remain civilian; in fact it is bound to rely on local resources to a considerable extent. If it did not the cost would rocket, there would be duplication of effort and manpower demands would increase. The Army might also feel that, by controlling civil defence, it could keep its budget small, whereas if it is under civilian control, it obviously has not the same influence and its budget (the Army's) might suffer in consequence.

It is well to bear these various aspects of the problem in mind, since the fact remains that in most, though not all countries, the money allotted to civil defence is grossly inadequate in comparison with overall defence expenditure. The bald fact is that all countries are used to supporting an Army and a Navy (where appropriate), and in the last half century an Air Force. They have given only half-hearted support to civil defence, which is all too often regarded as a symbol that war is expected, or that it is something which can be taken up at the last moment when war appears inevitable. Both these theories are complete and dangerous fallacies, and are the result of an unwillingness to face facts or just pure wishful thinking. The campaigns of well meaning but misguided pacifists and unilateral disarmers and those who say there is nothing to be done, give some ammunition to

Governments who may be already reluctant to do aything about civil defence, other than to make some rather ineffective gestures.

This aspect of the relations between civil defence and the military authorities has been stressed because it is useful and interesting to look back to the historical side of post-war development. In the United States, Civil Defence started under the Pentagon, and was then transferred to civil control eventually ending up in the Office of Civil and Defence Mobilization (OCDM). This meant that the whole of Civil Emergency Planning was concentrated in one place working in the President's executive office. There was naturally some decentralization amongst Government departments, but the direction and co-ordination were the responsibility of OCDM. Under the late President Kennedy, however, it has again been split and civil defence has returned to the Pentagon. It will be interesting to see how it all works out.

In Canada, rather a similar set of changes has been made, as Civil Defence, after the war, started under the Army, was then transferred to the Department of Health and Welfare and has now been split up again between the Army and the Emergency Measures Organization.

In Portugal, on the other hand, Civil Defence is a part of the Portuguese Legion, which is a para-military force, and has, therefore, been on a military basis throughout. This arrangement has suited the political conditions in this country.

If the Army provides the mobile columns, it is essential that they are wholly committed to Civil Defence; and that there is no possibility of their being taken away unless circumstances were such that Civil Defence was not required or the country was subject to hostile invasion.

In Britain, the most recent idea has been that the Territorial Army should provide a reserve, but this arrangement never had much force and today is non-existent. The Territorial Army, with its size and military commitments, can have no regular Civil Defence role; Civil Defence has now no mobile reserve at all.

The military authorities are responsible for Civil Defence in their own establishments, and personnel must be trained for this work. There must also be close co-operation with the local Civil Defence organization and arrangements for mutual assistance. Instructors should be trained at the national Civil Defence schools, including the Staff College, if one exists. In Britain in the war, this side of military defence was known as "Passive Air Defence", which was an unfortunate title and had a bad psychological effect. It is, in any case, a highly active operation of war.

It should be an accepted principle that the Armed Services come to the assistance of civil defence, provided their operational commitments permit; in nuclear warfare it is certain they will be badly needed.

If a country is under nuclear attack, it is improbable in the extreme that military personnel in the country will be able to leave it, whatever role may have been assigned to them. It may be that a potential enemy is planning invasion; but if so, it is hardly likely to be preceded by nuclear attack, though conventional bombing might be used, or even biological and chemical warfare or some combination of all three forms of attack.

Military aid to Civil Defence should be planned and thought out beforehand on the assumption that it will be needed. The form it will take will naturally vary with circumstances; but, in principle, military personnel should be used on tasks for which their training best suits them. They should always come as a military formation and not in unorganized groups unless circumstances force such action, and they should be employed under their own officers and NCOs, though acting under the general direction of the civil defence authorities. They should be given specific tasks to carry out. There used to be talk in Britain of the military authorities taking over from civil defence, but this should not be done unless the whole civil machine has collapsed.

So far as actual tasks are concerned, military police can best be used on traffic control and duties of a similar nature; signal personnel on helping out with communications, probably one of the most important tasks; engineers in rescue work, debris clearance, bridge building, road repairs and other tasks for which they are suitable and have the necessary equipment; medical personnel and equipment to assist with first aid and supplement the field medical organization; infantry can form working parties and be generally useful in a variety of tasks.

Military transport may be of great assistance; any other personnel with no specialist qualifications can also form working parties and give help generally under skilled supervision. If Army fire service units are available, they will naturally assist the fire services.

When coming to the help of civil defence, the Army should be as self-contained as possible, and should not rely on the civil authorities for billets, feeding and other necessities, unless they have been told they are available.

There will be many other tasks in which the help of the Army will be invaluable; only some of the more obvious have been mentioned. But the general moral effect will be high and of special importance to the hard pressed civil defence services.

Chapter 19

Self-Help

The vital importance of maintaining the morale of the civil population has been stressed and cannot be emphasized too often. Not only must they have confidence in the plans of the Government and other authorities concerned with the general protection of the country, which includes active as well as civil defence, but they must have the necessary self confidence, which can only be built up if they understand clearly the risks to which they may be exposed and what they can do to help themselves.

However good the national arrangements may be, the disruption and disorganization which will inevitably happen, under the scale of attack possible, can only be successfully combatted if the public bear their full share of responsibility. If they cannot be self-reliant, their chances of survival may be greatly reduced, because the trained or semi-trained forces are never likely to be wholly adequate for the multitude of tasks with which they will be confronted, especially since movement may be restricted by fallout, debris and damage to communications generally.

Unfortunately, the whole tendency today is in the opposite direction. The public are becoming less and less self-reliant as they are more and more spoon-fed. If this trend is to be counteracted, the youth of the country must be taught self-reliance and initiative. Such teaching should be regarded as a basic part of self-help and receive every encouragement from the central and local Authorities. Movements such as Boy Scouts and Girl Guides can, and are doing excellent work in this direction; there are other organizations too which stress and teach self-reliance. In all training of this kind time should be devoted to the problems of self-help under nuclear attack. The influence that children and teenagers can exert on their parents is a factor that should not be overlooked or underestimated.

All schools should devote an appropriate amount of time to these problems. As an example of what can be done, an excellent idea was started in Canada by holding a teenagers' course at the Emergency Measures College at Arnprior, Ontario. The course lasted for 9½ working days; besides lectures, demonstrations and films, included a visit to the Parliament Buildings in Ottawa, a talk by the Prime Minister and a visit to a Royal Canadian Air Force Station. The object of the course was to indoctrinate a selected group of junior citizens of both sexes, in civil defence activities. After the course the Principal of the college said that "the course proved to be one of the most interesting that had ever been conducted". A comment from one of the students attending the course is also worth repeating: "I now realize that survival is possible under nuclear attack, and can talk seriously with my parents and other girls on civil defence matters."

This is an example that could well be followed, because the stimulation of interest and the acquiring of practical knowledge at an impressional age can have far reaching results.

Unfortunately, in some countries, especially Britain, there is a great prejudice against embodying anything even remotely connected with war in school curricula, on the wholly erroneous grounds that it will engender a warlike spirit in children—as if it was not already there from birth—and will be bad for them on moral grounds. Further, that it will encourage the idea that war is inevitable: another patent fallacy.

Such instruction, carried out on sensible lines would, it is believed, help to foster a spirit of responsibility and would greatly add to the inherent strength of the country if an emergency did arise. It could certainly help in that most difficult of all tasks, getting the public interested in their own protection.

What has just been said may seem to be a diversion from the subject of this chapter; but, if any success is to be achieved in educating the public, it must be tackled all down the line, and every effort made to break down a lot of opposition; what can only be described as passive resistance and utter indifference to the future. The fact must be pushed home that self-help and other training of this kind is a form of insurance, and is no more likely to provoke war than taking out a fire insurance policy for your home is likely to increase the chances of its catching fire.

Before going any further it is as well to define clearly what is meant by "Self-Help" in connection with nuclear warfare. Fundamentally, its object is to increase greatly the chances of survival by giving people enough information and training to enable them to be self-reliant during a period when outside help cannot reach them.

The first stage in promoting a campaign of "Self-Help" should be to produce a pamphlet for householders setting out clearly and simply what they should know, what they should do and containing a list of those things with which they should provide themselves. Such a pamphlet should be illustrated and written in what may be called a "popular style". It is no use issuing something written in the usual Government prose: no one would read it. And if they did, they would probably not understand it. It must be written and designed to hit them and catch their immediate interest, and what is equally important, to hold it. A little humour will do no harm and may often help to register an important point.

Such a pamphlet should not, however, just be issued and left at that. It should be launched, if possible, with suitable publicity on the wireless and in the press, with

emphasis on the insurance value of its contents. Ideally, it should be followed up by personal visits by civil defence personnel, who can assist with practical advice and show how the difficulties can be overcome, and there are bound to be many in all the different circumstances in which people live. It is also essential that it is backed up by local plans to help those people—and there will be many—who cannot, for a variety of excellent reasons, carry out the instructions either in part or in whole without some help and advice.

An excellent follow-up scheme has been devised by the Woman's Voluntary Services in Britain, the "One in Five" scheme. This has as its object the attendance of a member of one in every five families at a talk dealing with the basic principles of survival. This scheme has had much success.

Whatever arrangements are made, however, they must not only be accompanied by suitable publicity, but at appropriate intervals there should be reminders. In other words, the public must not be allowed to forget.

The multitude of objections, political and otherwise, that can be raised to these proposals, based on a belief that to talk about self-protection in peacetime means that war is expected, are fully realized. And the political dislike of measures of this kind, which besides having no vote-catching value, can be subjected to every sort and kind of political misrepresentation. Nevertheless, a number of countries have faced up to this problem and issued their pamphlets to the public. In some cases, a hotting up of the cold war has given a useful background when interest in these matters was, temporarily, quickened, and the opportunity seized to get the issue made. Such occasions are also valuable for follow-up publicity.

When all is said and done, however, the problem is a difficult one brought about by the civil population being in the front line.

The ingredients of self-help are simple in themselves. They should include a knowledge of first aid and home nursing, the latter being important because it would be necessary to discharge from hospital all patients capable of being sent home, even though they still required attention; a knowledge of elementary fire fighting and the methods of making a home shelter against fallout, with additional protection in some areas; what equipment and stores to provide for the shelter; what are the local civil defence arrangements, especially the nearest warden's post and who are the wardens; and a knowledge of the warning signals and the action to be taken on them.

The equipment and stores will vary to some extent from country to country, especially the food supplies. Provision should be made for at least a week, which might give a little reserve, though the longer the supplies will last the better because there may be many supply difficulties when the shelter period is over.

It is not proposed to make detailed suggestions as to the furnishing and provisioning of the shelter, since only the broad principles are being considered; but, as has been said, provision must be made for a stay of some days. A most important item, will be a battery wireless set so that touch can be maintained with the outside world. It will be most unsafe to rely solely on main receivers.

Reference has already been made to the problems likely to face a community during the "Fighting Back" phase and need not be repeated. But some hints on self-help in this phase might be included in the Householder's Handbook and some training would be valuable, especially for those who will act as leaders.

How much can be accomplished in the education and training of the public in peacetime is a matter of speculation. It is quite natural that the public should not want to trouble its head about such matters in normal times, and will be difficult to interest. Herein lies a fundamental weakness in preparations to defend the Home Front and also a challenge. Members of the Fighting Services are highly trained for their wartime duties; the general public, whose role is no less important, should be equally prepared, though it is unlikely that more than a fraction will be.

Nevertheless, every effort should be made and every advantage taken of an increase in cold war tension or other circumstances which might make the public, even if only temporarily, more receptive. The lessons of natural disasters should be publicized, especially those where the effect is widespread, such as floods and hurricanes. But above all, the authorities concerned must be prepared to make a nation wide drive once a threat of war seems to be developing. There may be no time to be lost and a great deal of leeway to be made up in a short time. Unless the opportunity can be seized, it may be too late and the results fatal in consequence.

The key note of all publicity must be that survival is possible provided certain things are done. The Government must emphasize what they have done and are doing and the gaps left which only the public themselves can fill. Such action has nothing aggressive about it: on the contrary, the taking of such precautions might well have a steadying effect, both nationally and internationally.

There could be no greater temptation to a country contemplating mischief than the thought of catching its potential opponent or opponents wholly unprepared with the hope, perhaps, that mere threats alone might achieve the collapse of the Government, spread panic amongst the population and thus achieve their whole object by intimidating propaganda. Such an occurrence would be the high level of the cold war and must never be allowed to happen, if we value our freedom and way of life. For this is what is ultimately at stake.

It is believed that the steps which have been advocated should be taken as a whole by an Alliance, so as to show a strong united front. Every nerve will be strained to avoid war; but there are certain risks which could and, indeed, have been taken in the past, which are unacceptable under conditions of modern warfare. This new situation must be recognized by Government. It must never be forgotten that, generally with the best will in the world, politicians have never yet stopped wars from starting, if the opponents were determined on this last resort to gain their ends; and that they have, more often than not, taken us into the conflict woefully short of the means of defending ourselves. Time will only be on our side if we seize it by the forelock.

Chapter 20

The Survival Plan

An attempt has been made in this book to examine, on broad lines, the problem that faces a country in defending its Home Front against nuclear attack, and the preparations that should be put in hand if this defence is to succeed.

Whether such an attack will ever take place is anyone's guess but he would be a bold person who would utterly deny that such a thing is impossible. Obviously the cold war will be played out to its bitter end. But miscalculations might be made, and despite every safeguard that human ingenuity can divise, someone's hand on the trigger might slip; or a conventional war, starting perhaps in some apparently remote corner of the globe, might spark off a chain reaction which might engulf the free world.

Even if nuclear stalemate should be achieved, conventional war might still eventuate and modern conventional weapons will be far more destructive than they were before. Furthermore, there is always the possibility of biological and chemical warfare being developed and the former offers possibilities of conquest without destruction which could be tempting.

Throughout the history of the world, there have been tempests, floods, pestilences, earthquakes, volcanic eruptions, famines and wars, but the human race has survived. It can still survive—even though man can now rival nature in his destructive capabilities—if only man will be prepared to defend himself against his own inventions. In fact, any Government knowing the facts as it must do, would be guilty of criminal folly and negligence if it failed to make plans for its country's defence. There are three defence Alliances of the free world: NATO, CENTO, and SEATO. The importance of facing this nuclear threat as members of a team is overwhelming, even though Home Defence is essentially a national problem. That is why this book has been written form an international point of view, taking as an exemple conditions on the continent of Europe and of North America and the Alliance to which they belong. A good deal of what has been written, however, will apply or can be adapted to the different conditions of countries such as those which belong to CENTO, SEATO and also the Neutrals.

As has been shown, there are some things which can best be organized on a wide basis, such as warnings and in many others the collective experience of members of an Alliance can be pooled, thus adding materially to the over-all strength and efficiency of the preparations. The possibilities of mutual aid are considerable.

Probably the greatest enemy of nuclear defence on the civil side is lack of space. In other words, it is easier for a country like the United States, Canada or France to organize defence in depth, because they have more room for manoeuvre.

Another important factor concerns the number of probable nuclear targets and their proximity to one another, because this will greatly influence the space available for the earmarking of survival areas, i.e.: those areas in which only fallout or light to moderate damage can be expected or where only accidental hostile effects are likely.

The plan put forward in this book is concerned with survival as such, because it is believed that that is the crux of the problem. Great destruction and damage will be inevitable, unless the active defences and the retaliatory forces between them can ward off any attacks. However efficient they may be it would be optimistic in the extreme to count on this perfect solution. In fact, if we were so sure that this would happen, we should not in logic need any civil preparations at all. What is essential is that they should keep the attack within bounds, because any country being able to strike where and when it liked would quickly reduce any defences to a complete state of impotence.

It is thought that the facts must be faced realistically, even perhaps hard heartedly, and that time and money should not be spent on trying to protect and defend on the civil side, the heart of the most obvious targets, when it is known there is very little to be done which could be really effective against nuclear attack.

It may seem cynical, even defeatist, to advocate the abandonment of parts of major cities, ports or industrial areas on which, in peacetime, the life of the country depends. But, if as is obvious, their destruction will be inevitable unless attacks against them can be prevented, how much wiser it will be to concentrate on those areas where defence is practicable, and above all to aim to save the maximum number of lives. However, widespread the material damage and destruction, it can be replaced sooner or later.

The essence of the plan put forward, therefore, is firstly to concentrate on national defence in the shape of planning the maximum number of survival areas; secondly to organize, as part of an Alliance, the maximum amount of mutual aid and the pooling of those resources and defence measures which can be most effective on a wide area basis.

The scheme of the survival areas is, in a way, a complete reversal of the tactics of the last war, where the main defence was concentrated in and around the most vital areas. The proposals discussed do not advocate the complete abandonment of these areas, but those parts of them which, in all probability, will be subjected to such heavy destruction and damage that adequate defence will be well nigh impracticable.

The selection of survival areas should be done by taking first of all the most probable target areas and from the centre of such targets drawing circles to delineate the areas of complete destruction and irreparable damage, the areas of severe damage and those of moderate and slight damage. It is in these latter areas that the question of protection becomes a practical proposition. The size of the weapon for which the areas are drawn should be the one that is accepted nationally or by an Alliance as a whole, as the yardstick for preparations. It is conceivable that the size of the weapon may vary from time to time with developments or with the anticipated intentions of the enemy. It may be convenient, for the purposes of these proposals, to consider a one megaton bomb. It will be quite easy to enlarge the picture to give the increased areas affected by bigger weapons. Probably the correct answer may be to plan for 5 to 10 megaton bombs.

For the one megaton size, however, the radii are roughly as follows:—

Zone A.	Total destruction	1.8 miles (2.8 kilometres)
Zone B.	Irreparable damage	3.7 miles (5.9 kilometres)
Zone C.	Severe to moderate damage	5.5 miles (8.8 kilometres)
Zone D.	Light damage	7.4 miles (11.8 kilometres)

The next factor to be considered is fallout, and here the prevailing winds must be taken into account. Although the actual direction in which fallout will be experienced in relation to the bomb burst is not necessarily that of the surface wind, because coming from a great height it will be subjected to the influence of the upper winds and convection currents, it is the most practical planning guide that can be given. The meteorological authorities should be consulted if, as is obviously desirable, a more accurate forecast is required before the fallout planning basis is plotted.

Although the conventional sausage pattern of fallout is generally used and is the most convenient for broad planning purposes, it is not necessarily accurate, nor will it be in such a neat pattern. But in the present planning context it will be adopted, and the figure of 50 miles wide and 200 miles long should be used for the downwind area and 20 miles long up wind.

These fallout patterns should be put on the map, and the combined result will show roughly the areas likely to be affected. The survival areas will, therefore, ideally be those remaining the least affected.

This is a policy of perfection which in practice, will probably be impossible to follow, because it will be too restrictive of the survival areas. Common sense will have to be used, and it may be that the fallout risk will have to be accepted. In fact, this is almost certain to be the case, though those areas likely to be subjected to heavy fallout should be avoided as fast as possible especially as places into which to evacuate families from the areas of probable complete destruction or irreparable damage. They may well, however, have to be used for emergency purposes.

From the pattern that will emerge, it will be possible to delineate the survival areas, in each of which a Headquarters should be selected in the least exposed part. These areas will work in exactly the reverse of those suggested for the target areas. In other words, they will start with those parts which will be subjected to the least risk and will, probably, at their maximum radius include those areas which are in the C and D zones of target areas. The inclusion of such areas may be unnecessary; everything will depend on the geograpical situation and other factors.

The size of the survival areas will vary a great deal. They should not be too large, bearing in mind the difficulties of administration due to the disruption of communications; other factors are bound to arise which are not easy to define beforehand. If they can conform to existing local government boundaries, so much the better, as an administrative machine will already be at hand. But where such boundaries have to be ignored, then an improvised machine will have to be created, though in settling the survival headquarters, it will greatly facilitate any improvisations that have to be made, if they are based on a peacetime local administrative headquarters. In Britain this could be a County Council, in France a Department, in Germany a Land and so on.

It will be convenient to split each survival area into a number of sub-areas, each with its own headquarters, again where possible, based on a peacetime local authority. Where none exists they will have to be created or an improvised machine set up. Since a survival area may be fairly large, it will be essential to make provision in this way for smaller areas to be self-contained, if the need arises. Where ad hoc arrangements have to be made, they should be worked out in peacetime, and leaders and staff earmarked and given training in their duties.

As has been explained, these survival areas should be self-contained and able to look after themselves, even if isolated for considerable periods. The reserves of survival essentials should be with each household, with shops in villages and towns, and a further central

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PROBLEMS OF GROUP FEEDING IN EMERGENCY

by

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This paper was prepared for the 1966 meeting of the NATO Civil Defence Committee Scientific Working Party. Its presentation and discussion contributed in part to the formulation of an advisory brief on Food Supply Problems Caused by a Nuclear Attack.

Recent research shows that a reappraisal of the food supply problems caused by a nuclear attack has become necessary.

The contamination of food by the entry of radioactive substances into food chains in areas subject to heavy fallout now generally seems to be a minor aspect of the over-all problem. On the other hand, damage may be caused to the crops by the radiation in the fallout field, leading to loss of the crops in such areas in the first few years following an attack. This loss of crops will add to the damage to food stocks and animals caused by the other effects of a nuclear attack, such as blast, heat, radiation and fires.

Against this new background, it may be advisable for civil defence authorities in the member countries to reconsider their plans for stocking, distributing and controlling food supplies, and for feeding of the population in emergency areas.

It is a well-established fact that in disaster, food and feeding are basic morale factors, and often determine recovery from disease and injury. The significance of food in time of emergency has been recognized by the Canadian Government. By Order in Council PC 1959-656 of 28 May 1959, responsibility was delegated to the Department of National Health and Welfare, through an Emergency Welfare Services Organization, to give assistance to provincial and municipal governments in the operation of emergency feeding.

By emergency feeding is meant the supplying of food or meals to persons made destitute by a disaster, or otherwise deprived of access to food or meals. It includes also the feeding of the multitude of workers required for activities essential to recovery from the disaster.

This paper will describe how Canada is planning a nation-wide program for emergency feeding should the need arise. It will also define the feeding problems which can be foreseen during the shock phase of a nuclear disaster, with emphasis on the scientific and practical aspects of special feeding requirements. The measures which are being taken to reduce the consequences of these problems are planned in collaboration with the other departments of government concerned and in consultation with Emergency Welfare Services officials at the various levels of government.

The Nature of the Problems

In general, the problems relate to destruction of human and physical resources; the prevalence of stress, confusion and disorganization in the shock phase; and associated environmental factors.

The Specific Problems

In specific terminology, the problems can be defined as:

- The large numbers of people who might require group feeding in communities where adequate facilities and resources do not exist.
- The special needs of vulnerable groups in the population, including infants, casualties, and workers involved in life-saving activities.
- The requirements for feeding services in a variety of situations and locations, necessitating mobility and improvisation.
- The possibility of unsafe water.
- Uncertain or restricted food supplies due to destruction of food processing plants and warehouses, contamination of farm animals and crops by radioactive fallout, and breakdown of transportation and distribution facilities.
- Disrupted public utilities.
- Insufficient trained and experienced personnel to provide leadership in a period of confusion and disorganization.
- The danger of food-borne infections.
- The threat of radioactive fallout.

Attempts to Resolve the Problems

On review and analysis of these problems, certain remedial measures which could be taken by government became evident. In general, the measures to meet and reduce the problems have been in the three broad areas of service, education and research. Specific measures taken to date include:

- Promoting self-help for individuals and families.
- Establishing emergency feeding standards to

ensure adequate protection of vulnerable groups in the population.

- Stocking special rations for particular group needs during the shock phase.
- Assisting communities to develop an operational capability for group feeding by:
  - —conducting continuous specialized training for key personnel to create the necessary organizational structure;
  - —providing guidelines for planning; and
  - —recommending basic operational procedures.
- Developing specialized feeding equipment to meet unusual disaster demands.
- Involving professional groups to create a back-up reserve of potential leaders.

These measures will now be discussed in more detail.

1. Promoting Self-Help

Recognizing that the demands on mass feeding services can be greatly diminished if individuals and families make some preparations of their own in peacetime, educational and informational materials interpreting self-help measures have been disseminated through various media. There are two aspects in particular:

1. Encouraging individuals and families to maintain a seven- to fourteen-day supply of water and food*. Because they are fundamental for survival, water and other liquids are stressed. A variety of commonly available canned and packaged foods with good keeping qualities is the next consideration. This emergency food pack is essential if householders are confined to shelter during a period of fallout. When compactly packaged, its portability can make it equally useful for evacuation.
2. Encouraging the possession of a survival food kit, adequate for short term survival during the shock phase if all other sources of water and food were cut off. The following recommendations were formulated by a committee of medical and nutrition authorities:

   One 20 ounce can of juice;
   One pound of candy (any kind except chocolate);
   A can opener.

The physiological basis for this ration of carbohydrate and liquid is to conserve body fluids. The proportions of protein and fat are kept low. This is due to the fact that the end-product of protein metabolism requires water for clearance through the kidney, and the fat is restricted to avoid the damaging effects of ketosis—a condition that ensues when a large amount of fat is metabolized incompletely due to an insufficient amount of carbohydrate.

Further details are given in the pamphlet Your Emergency Pack *produced by Emergency Welfare Services Division, Department of National Health and Welfare, Ottawa, Canada.*

2. Establishing Standards for Emergency Feeding

Standards have been developed by the Canadian Council on Nutrition, the nutrition advisory body to the Department of National Health and Welfare, which establishes nutritional levels for various time phases during emergency. The following points which have been extracted for inclusion in this paper, have a bearing on feeding in the shock phase, especially relating to vulnerable population groups:

Principles

- Only water can be regarded as essential for survival during the first few days of an emergency. For infants it is a critical need within a few hours. One quart (40 ounces) of safe water per person per day, and more if possible, must be available under all circumstances. It must be free from contamination, both bacterial and radiation.
- About 400 calories daily from carbohydrates such as sugar has a physiological advantage to the body, especially when water is scarce.
- If the intake of calories is low, effort of any kind will likely be restricted by the people concerned. Therefore, feeding must be related to the work being performed or expected.
- After water and calories are provided, no nutrient has priority for three to four weeks except protein. It must be considered for certain groups: infants under two years, casualties, expectant and nursing mothers.

In addition, the standards outline the recommended levels of calories, protein and other nutrients for various time phases as follows.

Caloric Levels in Foods as Eaten

Immediately Following a Disaster

- Infants: 110 calories per kilogram (45 to 50 calories per pound).
- Casualties: many casualties should receive the regular calorie levels of evacuees (see below, 1,800 to 3,500 calories) supplemented as indicated by protein sources, which will provide some extra calories.
- Survivors in shelters: being restricted in movement, should have 800 calories per day each. This, in addition to the one quart of water per person per day would suffice for four or five days.
- People on special diets: patients suffering from diabetes, ulcers, colitis, radiation or burns,

should be passed through a medical clinic remote from the emergency area and accorded whatever foods are ordered, as available.

From Fourth Day to Three Weeks

- Essential workers:
  —engaged in hard physical work, for example, rescue, will require adequate meals. They should receive at least 3,500 calories per day;
  —engaged in sedentary work, office work, or light work should receive 1,800 to 3,000 calories per day.
- Evacuees, normal, healthy, uninjured:
  —engaged in light work, and including expectant and nursing mothers, 2,200 to 3,500 calories;
  —sedentary, 1,800 calories;
  —children, from one year to ten years, 1,200 to 1,800 calories;
  —on special diets, as ordered by medical authorities.

Prolonged Emergency

For a period of emergency feeding of more than three weeks, medical authorities must assess the complete adequacy of the rations. Weighing people at intervals or quick physical examinations would reveal any significant caloric shortage. Blood and urine analyses reveal current supplies and reserves of essential nutrients.

Protein Levels

Immediate Emergency Period and up to Three Weeks

- Infants have special needs for protein at a rate of at least 1.5 grams per kilogram (or 0.7 grams per pound) for the first few weeks.
- Expectant and nursing mothers require protein at a rate of from 10 grams to 20 grams per day above the ordinary requirement (total 70 to 90 grams daily).
- Most casualties and sick persons will have special needs for protein to a total of 100 grams or more daily.
- Evacuees and essential workers would have no critical needs for protein if meals of reasonable balance and frequency are being supplied. A level of at least 35 grams protein per day should be provided.
- In shelters, with restricted activity, a survival ration of carbohydrate, such as a starch jelly, would be suitable even though it contains little or no protein.

Prolonged Emergency

With the gradual return to normal conditions, the objective should be to reach and maintain the protein levels listed in the Dietary Standard for Canada.

Other Nutrients

In prolonged emergency, the objective should be to reach and maintain all the levels listed in the Dietary Standard for Canada.

Conditions of Feeding

Varying conditions for feeding or catering with respect to work, fuel, water and equipment, as well as the basic requirements of individuals, families or groups, make it unrealistic to specify precise menus or methods. The important thing to emphasize is that safe water and some kind of food are critical necessities for the life of some people, for the ability to work, and for the morale of all people. Acceptable presentation of food so that it is eaten can be as important as its nutritive value. In accordance with nutrition authorities, considerable importance is attached to the serving of a hot beverage as soon as possible after a catastrophe, for physiological as well as psychological reasons.

Using these criteria, specific planning has been achieved, for the three vulnerable groups for which there is particular concern in the shock phase. These are:

Infants

Medical authorities have recommended three standard formulas suitable for healthy infants during an emergency. Whole fluid milk, canned evaporated or powdered skim milk may be used. The handling of this part of the feeding operation by experienced workers under supervision cannot be over-emphasized. Emergency feeding personnel receive instruction in safe procedures during their specialized training.

Casualties

Although medical personnel would be available to provide further direction concerning the feeding of casualties in medical installations, three basic feeding patterns suitable for most casualties under emergency conditions have been developed for use by feeding personnel. They comprise clear liquids, full liquids, and regular emergency type one-dish meals for example, soups and stews. These feeding patterns can be modified to meet special needs in accordance with the nature and extent of the trauma.

Essential Workers

The emergency feeding service would provide supplementary feeding for this group, depending on the availability of sufficient food for the total population.

3. Stocking Special Rations for Particular Groups

In this particular planning area, consideration has been given to the feeding of two civilian groups carrying on essential activities during the shock phase. First are the workers in the civilian Advanced Treatment Centres operating close to damaged areas and providing primary treatment to casualties rescued by the re-entry forces during the life-saving period. Secondly, are the key workers carrying on essential government functions in relocated protected sites. Because of the location and working environment of these two groups, feeding by conventional methods would not be feasible. Therefore special precautions to ensure austere but adequate rations have been taken.

The Emergency Health Services have responsibility for the operation of the self-contained Advanced Treatment Centres which are capable of providing primary treatment to 500 casualties over a period of approximately 48 hours. Feeding equipment and sufficient food for the staff for the first 24 hours of operation are presently being packaged as part of the total unit supplies. Feeding equipment consists of liquid gas fuel and hot plates, containers for beverage preparation, serving ladles and paper cups. Food supplies include water, biscuits and instant beverage ingredients to provide a daily minimum of 1,000 calories per person. However, present planning assumes that the emergency feeding service should be sufficiently organized in nearby communities to supply emergency meals to the unit soon after it commences operations.

At this point it can be noted that the Army re-entry workers and civilians working under their command would be fed during this phase by Army rations prepared by Army personnel. Therefore, plans for this aspect of feeding are well in hand.

Planning for the second group of civilian workers mentioned, namely government officials in protected sites, includes the stocking of sufficient suitable foods in these premises to maintain a daily level of 2,600 to 2,800 calories for a 14-day period. Additional planning involves the development of a good rotation program, arrangements for adequate water, installation of simple cooking equipment, and instructions for workers concerning food preparation methods and strict rules of sanitation to avoid foodborne infections under these demanding conditions. Since "convenience" foods with good storage life would be particularly suitable for these sites, developments in food technology will be continually assessed to evaluate their application to these requirements.

Emergency Welfare Services Division is fortunate in that any feeding problem with nutritional implications can be referred for guidance and advice to the Defence Research Board Panel on Nutrition and Metabolism. This ensures a sound basis for the development of special rations for particular groups. Emergency Welfare Services have a representative on this Panel.

4. Assisting Communities to Develop an Operational Feeding Capability

Federal assistance in this respect takes two forms:

- providing staff training for key feeding personnel who will assume responsibility for developing an emergency feeding organization in their respective communities, and for operating the service in an emergency;
- providing general planning and operational guidelines which can be adapted to meet the particular disaster needs.

Staff Training

Emergency feeding staff plans and operations courses of five days' duration are conducted regularly by Emergency Welfare Services Division at the Canadian Emergency Measures College to train personnel selected by municipalities and regions (provinces) to fill their key positions in this service. The Federal Government assumes 100% of the cost of this training program. Regardless of the state of organization and readiness which might exist in communities in times of national emergency, at least there is a potential reserve of trained feeding people who can provide some degree of leadership during the confusion of the shock phase.

General Guidelines

Once the necessary organization is in existence, communities can then plan how they could feed large numbers of people, should the need arise. Since movement of people before and after a disaster can be assumed, so can the need for emergency feeding be assumed. It is essential that the emergency feeding plan be so designed that it can be put into effect promptly and be operated efficiently. Simplicity of design and organization, with a clear and direct line of authority at all levels of operation are essential. It is necessary also that the full resources of the community, in terms of feeding establishments, equipment and personnel be properly utilized.

Simple guidelines appear to be what organizers require to get on with the job. Consequently, a comprehensive Emergency Feeding Manual has been produced which outlines step by step how a community can develop an emergency feeding plan, as well as operational procedures to carry out the plan. Detailed information is given on the following topics:

- Essential components of an emergency feeding organization.

- Suggested content of a municipal emergency feeding plan.
- Methods of surveying community feeding resources.
- Conversion of feeding establishments to emergency use.
- Construction and use of improvised cooking units.
- Space, equipment, supplies and staff required for different types of feeding.
- Emergency feeding patterns for various situations.
- Feeding infants and children in emergency.
- Hospital feeding in emergency.
- Streamlined procedures for food preparation, cooking and serving.
- Emergency feeding sanitation.
- Operational staff duties.
- Food requisition guide.
- Suggested content of a local course for emergency feeding workers.

5. Developing Specialized Equipment

When considering the possible places where emergency feeding services might be needed, it was realized that one requirement, quite different from others, was the feeding of groups isolated from feeding resources. Mobility of equipment is a key factor when feeding such groups in many different locations.

Under favourable circumstances, nearby communities might be sufficiently organized to prepare and transport food to such groups. However, this assumption may not be realistic. In any case, the transportation of prepared food poses the additional problems of acquiring sufficient suitable containers as well as the danger of bacterial contamination developing en route.

Therefore, it seemed advisable to develop and produce a type of self-contained mobile unit which could provide simple food on a continuous basis if necessary, manned by a small team of workers. The result was a unit* consisting of five cases packed with the essential equipment, supplies and eating utensils; a simple cooker which can utilize any fuel; and other miscellaneous items. The cases, when empty, convert into work tables. The unit can be packed into a one-ton truck, and with the addition of fuel, food supplies, and a team of workers it can be despatched where needed. It appears to have filled a gap, for which alternate equipment is either inadequate or in short supply in most communities. The units are currently being distributed by the Federal Government to be strategically positioned in the provinces.

* *Details are included in the operating manual entitled "Mobile Feeding Unit" produced by Emergency Welfare Services Division.*

6. Involving Professional Groups

To compensate for the loss of trained workers which would be inevitable in a national disaster, there needs to be a back-up reserve of replacements. These substitute workers should be sufficiently qualified to be able to quickly adapt normal feeding procedures to an emergency situation, even if they had not received specialized emergency training. Members of the various professional food service associations, such as the Canadian Dietetic Association, Canadian Restaurant Association and Canadian Home Economics Association, have this built-in aptitude because of training and experience. Liaison with these organizations, with nutritionists at all levels of government, and with University faculties of Home Economics is constantly maintained. This contact along with some basic information is sufficient to keep them aware of their shadow role. Their assistance in planning, training and during operations can be invaluable to provincial Emergency Welfare Services organizations.

For some time, emergency feeding material has been incorporated into course curricula in University faculties of Home Economics. Potential leaders are thus acquiring some general knowledge of emergency procedures related to their particular skills.

Hospital dietitians constitute another professional group which is actively engaged in preparing for its role in disaster. Special emergency feeding courses, geared to their specific needs, are conducted periodically for this type of food service personnel. Consequently they are trained not only for their particular operational role, but can effectively contribute to the larger community effort as well.

Other Related Problems

Recalling the specific problems which were defined earlier in this paper, it will be noted that no further mention has been made of the two problems of unsafe water and limited food supplies. It would be impossible for the emergency feeding service to function without these two essentials. Therefore, if any group feeding activities are to be performed during the shock phase, complete reliance must be placed on those organizations and agencies responsible for water safety and the rationing and distribution of food. The basis for bulk issue of food for group feeding during this phase would be the Canadian Emergency Food Consumption Standard, developed by the Emergency Supply Planning Branch of the Department of Defence Production as a standard of measurement in the management, distribution and use of food supplies under nuclear war conditions.

Future Needs

An analysis of the functions and areas of operation of the emergency feeding service under conditions as chaotic as can be visualized in the shock phase, cannot fail to detect gaps and weaknesses in planning.

Therefore, in summary it can be said that the Canadian program must continue to develop, implement, extend and evaluate in the three areas of service, education and research. In collaboration with other federal and provincial authorities, new and improved devices and methods will be formulated. By studying and appraising present operations during peacetime disasters, the true value of each phase of the operation will be ascertained and improved programs can be developed. If at any time this system of modification of programs toward greater effectiveness does not meet with reasonable success, perhaps a more radical change might be indicated. ▲

Continued from page 17

reserve held by the principal survival authority of the area. In addition, some though not necessarily all, survival areas will be required to hold Government reserves.

There is no doubt that the survival authorities' reserves should be for three months, the shop reserves for one and a half months and householders for three weeks. The Governments' reserves should also be for three months or more. These are not ideal figures, because the more reserves that can be held the better. It is equally appreciated that the figures given will not normally be attained.

There will be countries where this plan cannot work or can only partially apply. It will depend mainly on the number of target areas in relation to the size of the counrty and, of course, there are other complications in relation to possible combat areas.

It is here that the value of an Alliance may arise, since countries having contiguous boundaries may be able to help each other. To what extent this may be possible on the Continent of Europe will also be influenced by the question of refugees: a problem which may arise in a big way, under certain circumstances.

Apart from the pooling of shipping, oil, transport, etc., where applicable, so as to make the best possible use of the resources of the Alliance, and to try and ensure that supplies from outside sources can be made available, there is also the possibility of mutual aid by civil defence mobile columns, medical teams and other civil emergency planning units. The extent to which such aid will be possible will depend on the situation of the countries concerned, NATO has, for example, a scheme for mutual aid in natural disasters, which could be applicable in war, if circumstances permitted. Mutual aid plans of this nature should be worked out in peacetime. It may be impracticable to use them, but no harm will be done.

The whole purpose of this book has been to suggest a realistic way of planning for survival. In many civil defence and civil emergency plans, admirable though they be, there seems to be a gap. There should surely be great emphasis on organizing systematically those areas where survival is a practical proposition, where not only large numbers of people can survive, but from which recovery can be staged.

Some hard headed thinking is needed and ruthless discarding of last war practices in many cases. If the worst does not happen, the organization can be quickly adapted to meet less desperate situations, provided there is sufficient flexibility about the plans. Whereas, if the worst happens and planning was a sort of half-hearted compromise or designed only to deal with losses situations, it would be difficult, if not impossible, to meet all-out nuclear attack.

The other point which must be emphasized again is that courageous political decisions will have to be taken at a time when traditionally a standstill policy has been the rule, to avoid any provocation. Civil Emergency Planning measures cannot, in any circumstances, constitute a threat to anyone. They can, however, show that a country, or an Alliance, is not going to yield to threats, and the Achilles heel of their defences has not been neglected. All in all, therefore, these measures should be a source of strength and a vital part of the deterrent, and should remove one source of temptation to a would be aggressor, perhaps the most tempting of all. ▲

The EMO National Digest began reproducing "Reflections" in the April 1966 edition. Since then, other publications have seen fit to reprint the material; among them are the Civil Defence Officers' Association Journal, the Industrial Civil Defence Review, the Irish Free State Civil Defence Journal and the De Vierde Macht (Dutch National Magazine).

The Director General,

Editor, Officers and Staff

of the

Emergency Measures Organization,

take this opportunity

to wish Digest readers and

contributors all good wishes

for

Christmas and the New Year.

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