
The Food and Security Nexus

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Introduction

This paper advocates a broadened conceptualization of international security to include such nonmilitary nontraditional threats as famine, which will be used herein as a particular example. Famine is ordinarily treated as a humanitarian issue, a risky course of action given the threat that it presents to security. It is made all the more risky given its potential to evolve into a global food crisis (GFC). The thesis to be tested is whether famine, i.e., the relative availability and/or scarcity of food, is or should be a component of international security, instead of treating famine solely as a humanitarian issue.

Local and regional food shortages are already recurrent in spite of dramatic advances in science, technology, and agriculture. Globally, a food shortage occurred in the mid-1970s, accompanied by malnutrition, starvation and civil unrest. A number of recent works claim that another shortage may occur in the not-so-distant future (Avery 1996; Brown 1997; Ehrlich and Ehrlich 1990; Hinrichsen 1997; Homer-Dixon 1996; USDA Food Supply Working Group 1998; World Bank 1996). If localized food crises (LFCs) present a threat to security, then the notion that a global food shortage (GFC) poses a risk to international security seems straightforward enough.

However, at present the traditional conceptualization of international security

does not recognize food as a security component, nor is any such accommodation deemed necessary -- food production can be boosted, and security studies should rightly remain focused on direct military threats (Simon 1996; Levy 1995), a point of view that is both overly-optimistic and narrow. In response, the position taken in this paper is that *the concept of security should be broadened to recognize a wide range of nontraditional challenges*, and specifically the ability of individuals to acquire sufficient food. Support for the thesis that food is a security concern is found in the destabilizing political dynamics induced by or associated with severe food scarcity. Hungry people behave in such extraordinary ways that political institutions have had difficulty coping.

It should be clear at the outset that the scope of this paper is global. A worldwide shortage of food would likely give rise to widespread episodes of political instability, potentially of a magnitude that could overwhelm political structures. As yet, no suitable example of a global food crisis (GFC) exists in spite of frequent prognostications for such an event to reappear. The GFC of the 1970s is unsuitable for study for two reasons: the international political dynamics were highly conditioned by the bipolar international system, a system that does not now exist nor is such development expected in the near future; the interdependence of the world's agricultural markets was not so firmly established as now (Hopkins and Puchala, 1980). In the absence of a suitable GFC to provide useful clues about hunger-driven political dynamics, a localized food crisis (LFC) will be examined instead.

This is not the first work to call for the recognition of alternative challenges to

national security, i.e., threats other than those presented by the nuclear and other massed military forces of foreign governments. The following example confirms where the field of security studies is and adds its own estimation of how far the field needs to go:

...to see security simply in terms of territory is to fail to understand international security after the Cold War; how can security of environmental or water resources be understood by a mindset rooted in the battle for the European Central Front? (Cornish, 1997).

However, two things distinguish this work from others. The first is the novel framing of this particular issue, as one that hinges on *personal* security vis-à-vis food, in an “iron triangle” of food, individuals, and security. The second distinguishing feature is the illustrative case, which demonstrates not only the security implications of the hunger-driven political dynamics of an LFC, and thus provides concrete evidence of one particular nontraditional challenge to security, but which also provides insights into those of a GFC, thereby highlighting the growing need for policy that treats maintenance of the world’s food supply as a security issue.

Also, a distinction needs to be made between the person-centered stance taken here, and the attention paid to individuals, such as is found in human rights literature. That literature views individuals in one of two ways. First, as per the Nuremberg paradigm, that held individuals accountable for official behavior, viewing the individual as possessing a *legal personality* such that national and international courts can hold the person accountable, e.g., for crimes against humanity. Or, second, as the *possessor of*

Human Rights, in other words, being viewed as the holder of those rights accorded individuals by virtue of being human, e.g., the Universal Declaration of Human Rights. True, this paper focuses on individuals, but it focuses particularly on hungry individuals, and views them in a way dissimilar to the aforementioned two views. Instead, it views hungry individuals as a threat to security, rather than as the subject for humanitarian concern. Nor does this paper aim to hold the hungry legally accountable for their behavior.

Security Perspectives

In the field of International Relations, the term “security” has traditionally referred to security of states, owing to the realist paradigm’s dominance of the field. Realism is an empirical theory, rather than a normative one, as it claims to view the world as it is, instead of how it ought to be. It takes a dark view of human nature, grounded, for example, either in the theological pessimism of St. Augustine or Reinhold Niebuhr, or the secular pessimism of Machiavelli, Hobbes, or Morgenthau, and holds that conflict is inevitable (Holsti, 1995). From the realist perspective, then, the world is a dangerous place, and the anarchic international system (with its self-help security situation) ensures that survival is the paramount concern of all states. In such a world, power is the ultimate ratio.

A normative perspective prevailed briefly, during the post-WWI period, while the League of Nations and the principle of collective security displaced realism as the basis for international relations. The desire for peace was supposed to outweigh the desire for

war, but this was not the case, as the desire to prevent war did not equate to the prevention of war. The world remained a dangerous place. The failure of this idealistic international system to avert the horrors of a second world war, its atomic-bomb conclusion, and the onset of the Cold War, served to consolidate the dominance of the realist perspective. The subfield of security studies, and its preoccupation with war and peace and military capabilities, flourished as a natural consequence of this world view, as the following illustrates:

It was the development of nuclear weapons, together with the emergence of the United States as a global superpower in the aftermath of World War II, that to an unprecedented extent attracted scholars to the study of security. The result was seminal theoretical analyses, the purpose of which was to create a strategic framework within which nuclear weapons could be integrated into the other means of statecraft and national-security policy. This work produced an abundant literature on the nature of, and conditions for, the deterrence of war between the possessors of nuclear weapons. Its focus, . . . was escalation, force survivability, nuclear retaliation, risk taking, and assured destruction . . . (Dougherty and Pfaltzgraff 1997).

These issues were considered to be matters of “high politics.” All else, e.g., economic and environmental issues, was relegated to the domain of so-called “low politics.” Paradoxically, the intense focus on military conflict made security all the more

problematic, vis-à-vis serious issues that could be resolved neither militarily nor unilaterally, e.g., environmental degradation or world hunger. In addition, the doctrine of military superiority and nuclear overkill has itself generated a legacy of nuclear proliferation and environmental degradation. Consequently, awareness of the need to de-emphasize conflict and to promote cooperation had a resurgence, beginning in the 1970s. For example, Krasner's (1983) *International Regimes* aimed to move international relations forward by synthesizing realist and liberal approaches (and their focus on high and low politics, respectively).

Gradually, different perspectives on international relations began emerging from the shadows of the realist paradigm, a trend that has accelerated since the end of the Cold War.^[i] To wit: scholarly efforts to expand the definition of security have multiplied, and the term "low politics" has been abandoned, with many of the issues included under that rubric being elevated in importance (witness the Earth Summits in Rio de Janeiro and Kyoto).^[ii] Yet this is not readily accepted as a security topic. The realist paradigm (in its contemporary guise of neorealism), for all its well-known limitations regarding security concerns, remains the dominant viewpoint in international relations.^[iii] Meanwhile, challenges to the dominant paradigm have become a "growth industry" (Kegley, 1995, p. 8).

To reiterate what was stated at the outset of this paper, the main thrust here is to advance the view, firstly, that a single, narrowly-defined version of security as international security, i.e., security of the nation-state, is too restrictive and, secondly,

that present conceptualizations of international security, that revolve around states-as-actors and strategic studies of war and peace, are insufficient for apprehending the broad range of threats to it. The remedy is to broaden the view to include a wider range of security challenges (i.e., issues), which must also be accompanied by the inclusion of security perspectives from a wider range of participants.^[iv] There are in fact four levels of security that require consideration:

- 1) the individual
- 2) the home state
- 3) regional neighbors^[v]
- 4) the global perspective

These four levels of security are not mutually-exclusive. Instead, they are cumulative. Moreover, the interconnectedness of each of these levels with the others makes it senseless to attempt to discuss the security of the state if security at one of the other levels has been compromised. It is this cumulative nature of security that leads to the concept of global security. If these levels of security were not cumulative, there could be no such thing as global security.

The reasoning here, which the case of Indonesia case will aptly illustrate, is that compromised security at any one level compromises security at each of the other levels. In particular, a severe shortage of food, e.g., a local economic insecurity that impairs the ability of *individuals* to buy food, has political and security implications at all four levels identified above. Each of these perspectives must be examined to understand the

political dynamics of a food crisis, whether local, regional, or global.

In the case of famine, if an individual is starving, then his/her security is compromised, and it probably matters little to him/her whether or not the state is well-prepared against external attack. Conversely, a state may be safe enough from external attack, yet have its security compromised if a significant segment of its population is starving to the extent that they behave in politically destabilizing ways. The resulting political instability may be sufficient provocation to lead regional neighbors (or extra-regional actors) to intervene, especially if they perceive that they have security interests that are being threatened by the situation -- and there is no assurance that the intentions behind this intervention will in turn be perceived to be in the best interests of the afflicted state. Finally, owing to the new interventionist postures of the UN and the world's major powers, global security will be problematic so long as individuals in large portions of the world are hungry, and thus threaten the areas in which they reside with political instability. In sum, the prospect of extreme food scarcity (whether LFC or GFC) must be most diligently addressed at the personal level, and remedied, as it is exactly here that one finds the threat to the security interests of all four levels of economic and political systems.

The Post-Cold War International Security Environment

The international security environment has been altered radically by the end of the Cold War. Since shortly after World War II, these political dynamics had been conditioned by the bipolar international system. The intense rivalry between the two

superpowers (US/USSR) created an international security environment in which discord and difficulty in places of lesser import were to be subdued or ignored by reason of Cold War exigencies, e.g., ethnic tensions or border disputes, such as those between Serbians and ethnic Albanians in Kosovo, or between Hutus and Tutsis in Rwanda.

The Cold War, and its unique situation of an international system ordered by superpower rivalry, evaporated with the implosion of the Soviet Union in 1991. In the post-Cold War world, the absence of any stabilizing influence from outside powers has allowed long-simmering or suppressed frictions, such as those noted above, to burgeon into a primary source of conflict. Regional tinderboxes such as Sudan, for example, are already demonstrating themselves to be a regional security threat. That particular situation has been made all the worse by the improper interpretation of its international import as being a matter of famine, and therefore solely a humanitarian issue. Unfortunately, similar fault-line wars will proliferate along other intercivilizational frontiers for the lack of firm intervention by a superpower (Huntington, 1996).

Interventions by the Commonwealth of Independent States (CIS), a mere remnant of the Soviet empire, have been limited to those political tinderboxes in the former Soviet sphere of influence. Indeed, several of the world's more troublesome areas are in the former Soviet sphere-of-influence. For example, Russia faces its own domestic security threats from Chechnya; Georgia has its own separatist movement; and Armenia and Azerbaijan are in dispute over the Nagorno-Karabakh region, to name but a few.

However, the erstwhile Communist Bloc, a superpower no longer, is in no

condition to impose its will on the remainder of the world's more-troublesome tinderboxes in an effort to curb conflicts. This leaves the United States, as the world's sole remaining superpower, increasingly having to play the role of the world's policeman or else allow these regional tinderboxes to escalate out of control, e.g., the 1999 NATO military action against Yugoslavian president Milosevic's Serbian forces in Kosovo province.

The Linkage Between Food, Persons, and Security: the Iron Triangle

The four levels of security linkages identified earlier, whether between nation-states, or geographic regions, or socioeconomic classes, are anchored at their most fundamental level by an "iron triangle" of food, the person, and security.^[vi] The term is used to indicate the immutable character of the linkage between these three elements. Food is a fundamental resource for human beings, and its scarcity heightens the potential for conflict over it (on small and large scales), which translates to a security threat.

Food scarcity is a perpetual prospect, and not only locally. The global food production trajectory continues to rise annually, but so does the global population trajectory. If the global food production trajectory fails to stay above the global population trajectory, food shortages will ensue. Such a prospect is not implausible. An earlier instance of a GFC has already been noted, and another episode could develop, for at any given time there are a number of significant downward pressures on global food production.^[vii] Current global food production (1700 calories per person per day) is barely sufficient to keep the world's population fed, yet the human population continues

to grow, making it necessary that global food production increases to meet this rising demand.^[viii] Any erosion in the level of food production would lead to a GFC. There is reason for concern that a GFC might develop, as the negative pressures on global food production intensify.

The origin of the LFC/GFC's security threat to the individual is a lack of adequate food intake, i.e., famine. The physiological effects of famine are widely known, and include the body's turning upon itself for the sources of energy necessary to sustain life processes -- a survival strategy which buys some time to locate a supply of food, but which ultimately leads to death once about one-third of the body's weight is consumed.^[ix]

The origin of the LFC/GFC's security threat at the state level, at the international level, and at the global level, is the political instability produced by the acting-out of large numbers of hungry individuals, i.e., a multiplicity of individual cases of relative deprivation, seeking to remedy their intolerable situations. When faced with food scarcity, i.e., the extraordinary pressures of famine, the range of actions taken by the have-nots will themselves be extraordinary (and likely violent). Consider this recent violent episode, one of over a hundred in drought-stricken Brazil:

It was then, during a drought that showed no signs of easing, that Carnio overcame his fear and doubt and joined a crowd of other hungry peasants. He rushed into a grocery store in Gravata, a well-to-do town nearby, in a troubling reminder of desperation in the backyard of affluence. He said he

grabbed only sugar and milk before the police drove off him and the other looters. One required 12 stitches in his head.^[x]

In this episode, Brazilian judges and other officials were compelled to condone the looting of food by otherwise hard-working people who were unable to find work. These countless individual actions produce cumulative results, and as such represent a significant and destabilizing political force. If not averted, this destabilizing force can have far-reaching political consequences. In sum, hungry individuals, in large numbers, generate the fundamental political pressures that drive the political dynamics of an LFC/GFC, all the way up to international levels.

To reiterate, there are several linkages at work here. Moreover, they appear to be immutable in character and thus cannot be negotiated away. There is a linkage between food scarcity and extraordinary behavior by individuals. There is a linkage between individuals behaving extraordinarily, especially in large numbers, and the political stability of resource-poor states. And there is a linkage between the stability of resource-poor states and larger regions, and between the stability of all the aforementioned and that of relatively wealthy states. These linkages, the sum of which ultimately bears directly on the security of all states, provide a powerful reason that the field of security studies must expand its purview to include a new threat paradigm: severe food shortage (and its effects on the person).

Conceptualizing a GFC from LFCs: Additive, Multiplicative, or Fractal?

As already noted, there are no suitable examples of a GFC to provide clues about

the political dynamics of a worldwide severe food scarcity. A recent LFC is used instead, in the belief that its dynamics can be generalized, thus allowing insights into the political dynamics of a potential future GFC. The relationship of a future GFC to today's LFCs can be conceptualized as additive, multiplicative, or fractal (i.e., reiteration across scales). In the additive model, the GFC is simply some increased number of LFCs distributed about the world in sufficient quantity to overwhelm the international community's ability to alleviate the problem. If another LFC develops, then the GFC is simply one LFC worse, and one more afflicted area suffers. In the multiplicative model, a synergism is at work, and the LFCs have a cumulative effect greater than would be expected from their number. Development of another LFC would make the GFC qualitatively worse, affecting areas outside each of the LFCs in perhaps unanticipated ways.^[xi] Finally, in the fractal model, the have vs. have-not differential is repeated at the intrapersonal level, the interpersonal level, at the local market, nationally, regionally, and globally.

For the purposes of this paper, and in recognition of the unprecedented interdependence of the world's food markets, the fractal conceptualization is preferred, for two reasons:

- 1) Interdependence in the world's food markets means that consumers can be categorized by their ability to purchase foodstuffs. Consumers have more in common with individuals of similar purchasing capacity in other states than with individuals of greater or lesser purchasing capacity in their home state.

2) The fractal model of reiteration across scales is more clearly consistent with the assertion being made herein, i.e., that the hunger-driven behavior political dynamics of individuals in Indonesia will reappear at the other levels of analysis (and in other locations) as the GFC manifests itself, such that those affected by hunger during a GFC can be expected to act out in ways similar to those seen in the illustrative case, with similar political consequences.

Bearing all this in mind, LFCs have been used herein as one of the new kind of security threats in the post-Cold War system. In order to establish a LFC/GFC as one of the nontraditional threats to security, this paper explores the nature of the LFC's threat to security in the post-Cold War world: Hunger brings on violent behaviors that are politically destabilizing, and political instability is a very real threat to the survival of a state. During a GFC, exceptionally large numbers of people, in an extraordinary number of locations, would be hungry, and thus likely to behave in violent, institution-threatening ways. Thus, the onset of a GFC would present a major threat to security.

Having established the linkage between LFCs, politically destabilizing behavior, and security at all of its multiple levels, the need for the field of security studies to adopt a broadened conceptualization of security should by now be clear, especially in light of the ongoing process of globalization. The globalization process renders everyone, everywhere, increasingly vulnerable to positive and negative developments worldwide, which is particularly important when global food production and distribution is concerned.

Were a GFC to occur, the issue would then be dealt with as a security matter rather than as a humanitarian concern. Thus, it remains true that the hungry should be fed. However, under this new security rubric, the purpose for feeding the hungry is to lessen the potential for the occurrence of politically destabilizing behavior, rather than to assuage some feelings of guilt for not doing so. Treating hunger as a security concern should result in greater resources being dedicated to resolving the problem, presumably with greater impact. This reclassification also obviates the possibility of donor fatigue, something that is already beginning to manifest itself in the humanitarian efforts in Sudan, for example.

The LFC that developed in Indonesia during the “Asian contagion” financial crisis (which began in 1997) illustrates how famine presents a nontraditional yet serious challenge to security. The country experienced LFC-associated civil unrest, often along civilizational fault-lines that are even now erupting in lethal confrontations, but was not being treated by the West as a security issue. The fact that Indonesia is a NIC (newly industrialized country) that had been achieving remarkable gains in prosperity before its economic collapse confirms that LFC-associated instabilities are not restricted to the poorest nor to the most politically unstable of states.

The Indonesia Case: Lessons for Security Studies and Security Policy

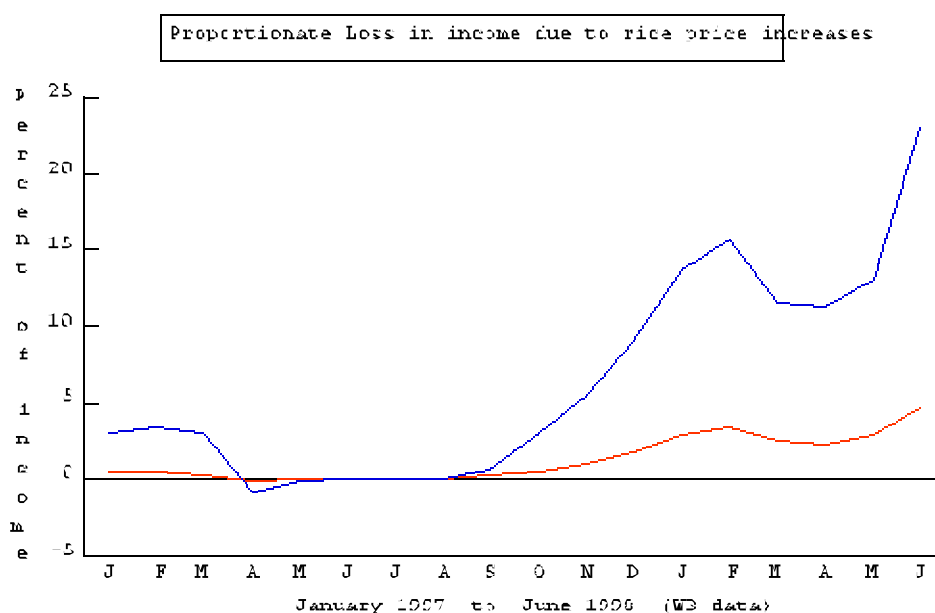
The Indonesia case leads ineluctably to the conclusion that considerations of the availability/scarcity of food should be a component of international security. This means that the way that each of these cases is perceived should be reclassified from a

humanitarian issue to a security issue. To do otherwise is to ignore a threat to security and thus to court danger unnecessarily.

The J-curve theory of rebellion sheds light on the events that unfolded in Indonesia early in 1998.^[xii] The rupiah had rapidly lost about 85% of its pre-crisis value by late January, 1998. This, coupled with an 80% annual inflation rate in 1998, severely eroded the purchasing power of ordinary Indonesians. This is not to say that it did not also have a deleterious effect on wealthy Indonesians, but the effect on the wealthy was softened by the fact that they could move their assets, and sometimes themselves, out of country. The erosion of the rupiah's purchasing power, through devaluation and inflation, can be thought of as a loss of income. This loss of income compromises the ordinary Indonesian's ability to buy food (among other things). As purchasing power continued to decline for more Indonesians, inability to buy food became a real problem and price famine became a reality.

Then, the government subsidy on flour, beans, and sugar ended in January, 1998. Prices for these staples jumped immediately, in direct proportion to the loss of the subsidy, and riots erupted in the countryside. These did not spread to Jakarta, nor were they in the same league with the May riots that would erupt in Jakarta. There is reason to believe that the absence of a major outbreak of violence is owed to the fact that this subsidy cut did not affect the price of rice, which had been dropping in February-March-April, as the rupiah began to recover from its lowest valuation

Rice price is a key indicator to monitor, the reason being that it has a symbolic meaning, greater than its caloric value as food, such that access to rice is seen as an important measure of well-being for Indonesians, analogous to bread for late eighteenth-century Parisians. In other words, perceived inaccessibility to rice compromises



perceived well-being. Unfortunately, compromised access and compromised well-being was exactly the result when the government subsidy on energy (fuel and electricity) ended in May, 1998. The loss of the subsidy translated into an immediate 70% rise in the price fuel and electricity.

The costs of processing and transporting everything rose correspondingly. This quickly affected the retail price of all goods, including rice. The accompanying graph makes two important points.^[xiii] First, bearing in mind the J-curve theory, notice the

improving price of rice in 1998 from February through April as the rupiah recovers slightly, followed by a sharp reverse in May, when the loss of the 70% energy subsidy occurred (and food prices spiked upwards a corresponding amount). Second, note the relative effect of variations in rice prices between the poor and the rich (bearing in mind that an ever-increasing number of Indonesians are falling below the poverty line, while the rich appear only slightly affected by the economic crisis), aggravating the tensions between ordinary Indonesians and the wealthy (primarily the ethnic Chinese entrepreneurial class).

In sum, the cancellation of the energy subsidy put additional stress on the Indonesian consumer, at a time when it could no longer be accommodated by many, as unemployment rose and more Indonesians found themselves slipping beneath the poverty line. The price of everything, including food, climbed. But what made it too much for the ordinary Indonesian to bear was the sudden upward spike in the price of rice, which had been improving for several months. Perhaps it was an unintended consequence. No matter, within days of the cancellation of the energy subsidy, the May, 1998, unrest broke out in Jakarta, reached a bloody crescendo, and Suharto was compelled to resign.

Assessment

To reiterate, the situation in Indonesia, and others resembling it, should be reclassified as a security issue, owing to the security challenge presented by political instability that stems from a sequence of events that includes international financial predation, currency collapse, a price-famine LFC, and then a rebellion that precipitated

the resignation of Suharto, thereby ending 32 years of political stability. The absence of strongman Suharto has allowed tiny eruptions of fault-line wars in Indonesia -- Muslims are fighting Catholics, native-born Indonesians are attacking ethnic Chinese, tribal Dyaks are killing and eating Madurese settlers in Kalimantan. Hence, the once-stable and once-prospering Indonesia begins to resemble Sudan, or Kosovo. The fact that Indonesia's waters are some of the most strategic in the world, connecting the Indian and Pacific Oceans, through which ships carry Middle Eastern oil to Japan and Japanese products to Europe, only adds to the gravity of the situation.

The Indonesia case bears out the need for the reconceptualization of security for the field of security studies, for security can be eroded by other than purely military means. It also demonstrates the fact that security is not an absolute term, but rather a relative term. The Indonesian situation, in and of itself, does not equate to global insecurity, nor would the successful resolution of their crisis equate to global security. Rather, the more instances of instability around the world, LFC-induced or otherwise, the more their cumulative effect approximates global insecurity. Such would be the case if a GFC appeared.

There are several additional lessons that those persons interested in security studies and security policy can draw. The first is that security is a more complex concept than is currently being realized, and that LFCs are a part of that complexity. As the cases have demonstrated, LFCs can take multiple forms, such that successful resolution of a particular crisis requires a tailor-made intervention for each particular situation, which

may include the use of security forces to ensure that hungry people are fed, as was done by NATO forces in the Kosovo crisis, and even more recently during anti-Taliban operations in Afghanistan and in the wake of the invasion of Iraq.^[xiv]

The second lesson is related to the first: The conscience-driven impulse to *do something* to remedy an LFC can result in an inappropriate and ineffective intervention, typically a purely humanitarian one. However, the appropriate response to a particular LFC may instead turn out to be an intervention that is primarily composed of security forces (e.g., Sudan would be a candidate). Moreover, humanitarian interventions tend to interfere with the operations of security forces, and vice versa, as was made clear in the NATO operations in the Balkans. In the case of Sudan, for example, the international organizations have been so deeply committed to the humanitarian type of intervention that an action like that being conducted against Slobodan Milosevic on the matter of his treatment of ethnic Albanians in Kosovo province, is nowhere to be seen.

The third lesson stems from the fact that globalism has proven itself to be a two-edged sword and that it confers negative consequences as well as positive ones. The case of Indonesia demonstrates this point quite aptly. Years of preponderantly positive consequences from globalization were followed by a wave of negative consequences that overwhelmed Indonesia's capacity to cope. Naked exposure of fledgling economies to the global economy means that the relatively huge global financial tides can swamp the tiny economies of countries like Indonesia, leading to political turmoil. This means that the merits of globalization must now be reconsidered in light of its bearing on security in

a particular situation, i.e., especially by the leaders of developing countries with emerging economies. Nor does the relatively tiny size of the various emerging financial markets exempt US investors from negative consequences of financial collapses in those emerging markets--the collapse of the Indonesian rupiah (and of the Asian currencies in general) rippled into the US financial sector and caused significant losses to US investors unable to unload their Asian holdings quickly enough. Obviously, some form of global controls on capital flows will be necessary if these situations are to be avoided in the future. But the point being made here is that a country's readiness for globalization will have to be considered from a security standpoint in addition to any other.

The fourth lesson is that *it can happen* here in the West. It may at first seem that government-toppling rebellions can only happen in chronically unstable and/or developing countries with limited capacity for coping with political unrest. However, the J-curve of rebellion, the demonstrable downward pressures on global food production, and the universality of the physiological effects of hunger, suggest that political instability could occur in the West (including the United States). An example of a likely trigger would be a sudden upward spike in food prices, as happened in Indonesia. This could be brought about by a sudden hike in fuel prices or transportation costs, or a significant decline in food production (for example, due to an environmental crisis, climatological change or terrorism directed at food production/supply).

There is a final lesson that can be drawn. A GFC would be a massively destabilizing phenomenon, given the demonstrated ability of hunger to exacerbate

political instability, and given the post-Cold War resurgence of intercivilizational frictions. The ongoing process of globalization of the world's food production has increased the global population's interdependence on food production levels in distant lands. Moreover, while global food production rises annually, so too does the human population. Meanwhile, there are significant downward pressures on global food production. Should the neo-Malthusians prove correct, and the global food supply tightens into a GFC, then the Indonesia case will become a microcosm of the GFC. The simultaneous (or closely sequential) appearance of large numbers of these hunger-exacerbated instabilities worldwide would become one of the hallmarks of a GFC.

Implications for the Future

The sum total of the preceding points is that a broadened conceptualization of security is needed, such that it remains within the dominant realist paradigm (which maintains that the world is a dangerous place) but that nevertheless insists that the well-being of persons, vis-à-vis the availability or scarcity of food, is a fundamental security concern. Furthermore, there are novel challenges to that security which must also be recognized. In an example of life imitating research, current events in the Balkans have compelled NATO, a military-security organization whose original purpose was to defend Western Europe from Soviet invasion, to undertake a far-reaching and pro-active transformation of what constitutes a threat to security.

It should also be clear by now that security is not absolute. It can be enhanced or eroded, by numerous means, but can never be absolutely assured. Security has been

shown in this paper to consist of multiple and interdependent levels. Security can be eroded by nontraditional threats to any of these levels, in other words, by other than purely military ones. Scarcity of food is undeniably one of those nontraditional threats to security, and its most direct impact is at the level of the person.

Conclusions

This paper has expressly linked food and security, and has further asserted that, at the most fundamental level, an immutable linkage exists between persons, food, and security, before going yet further, propounding the individual as its nexus and, ultimately, as the *sine qua non* of the entire security studies enterprise (all other claims of security-needs becoming second-order). The rationale for reorienting security studies to a person-centered stance is that the relationship between food, people, and security is a non-negotiable “iron triangle.”

This paper has also shown that the dominant perspective in the field of security studies, realism, is hindered from seeing the aforementioned iron triangle because of its state-centered (rather than a person-centered) point of view. This narrowness of view in turn fosters resistance to broadened conceptions of security and thereby limits the repertory of responses for dealing with a severe food scarcity. From the realist perspective, alleviating world hunger is not a security concern, of high priority, but rather a humanitarian issue and thus a matter of low priority.

This paper does not advocate abandonment of the realist perspective’s sense that the world is a dangerous place, for it remains so. But what this paper does argue for is

the broadening of the purely state-centric conceptualization of security, in favor of a multi-level conceptualization that begins with the security interests of the individual, which in turn promotes a broadened conception of security that recognizes a wide range of nontraditional challenges. Once this point is accepted, then the idea of food security clearly becomes a security issue, and thus a matter of high priority. The net effect will be that security is enhanced.

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[i] The primary theoretical challenger to realism is neoliberal institutionalism, whose origins are in Grotian legalism, Kantian ethicism, and Wilsonian idealism, a moral-normative approach to international relations. Neoliberal institutionalism insists that prospects for international cooperation have been wrongly discounted by realism and that international institutions can help states work together for the benefit of all, thus de-escalating the emphasis on conflict and military power (Robert O. Keohane, 1984). On the one hand, the United Nations is the obvious philosophical successor to the League of Nations and stands as an example of the kind of international structures that normative theories of international security champion. On the other hand, the use of UN trappings to conduct a US-led war against Iraq in 1991 is an example of the suffusive nature of the dominant realist paradigm. Another strike against neoliberal institutionalism is that it remains hobbled by acceptance of the realist tenet that states are unitary-rational actors (Joseph. M. Grieco, 1995).

[ii] The evolution of the subfield of security studies is traced by Baldwin (1995); Walt (1991); and by Kolodziej (1992).

[iii] On the continued dominance of the realist perspective in international relations, see Mansbach (1996); Grieco (1995); Choucri and North (1993); Nye and Lynne-Jones (1988).

[iv] There have been attempts to make the definition of security more inclusive, but these fail to expand the range of relevant actors to include the individual. See, for example, Prins (1995); or Krause and Williams (1996); Baldwin (1995).

[v] This includes extra-regional actors with interests in the region.

[vi] Psychological theorist Abraham Maslow (1962) offers a hierarchical conceptual scheme of personality, such that the “pyramid” of human needs proceeds from physiological needs, at bottom, upwards through safety needs, then on to belongingness and love needs, esteem needs,

and ultimately, self-actualization needs. If fundamental needs, such as physiological or safety needs, are unmet, then pursuit of higher needs must be postponed until the more fundamental needs are addressed (p. 23). The four-level schemata presented in this paper reflects only the political context, and does not aim to provide a theory of individual personality. In the political context, Maslow's physiological and security needs are inseparable.

[vii] There are several avenues that lead to a severe scarcity of food, e.g., reduced food production so that there is an absolute shortage of food, or an economic collapse, such that there is food available but it is too expensive for the lower economic segments of society to buy. For explanations of environmentally caused food scarcity, see, for example, Lester R. Brown, 1995; USDA Food Supply Working Group (1998); World Bank (1996). For examples of economically-caused food scarcity, see Sen (1981). The opposing view, that food will not become scarce on a global level, is found in Simon (1996, 1981).

[viii] World Bank, 1998, *Hunger: It's Not What You Think*, <http://www.worldbank.org/html/extdr/hunger/informat.htm> (22 April 1999).

[ix] An excellent primer on the physiological effects of inadequate food intake is Vander, Sherman, and Luciano (1985); and also Krause and Mahan (1984), especially pp.17-19, 218-221, 293, and 706-714.

[x] Schemo, Diana Jean. In Brazil, Despair Once Again Feeds on a Drought. *New York Times*, 28 May 1998.

[xi] In the 1970s GFC, grain prices quadrupled in response to the higher worldwide demand for food. Grain that had been donated to the world's hungry was rerouted into commercial channels to take advantage of that fact (Hopkins and Puchala, 1980). In a future GFC, higher demand for food might result, e.g., in more intense pressure on overfished areas, leading to the collapse of that fishery for generations to come.

[xii] The "J-curve" theory holds that people's attitudes are the real cause of rebellion, rather than the objective social and economic conditions of a country, and, furthermore, that the rebellion will occur not when deprivation is at its worst but instead occurs after a prolonged period of objective improvement, which creates the expectation in people's minds that conditions will continue to improve, is followed by a short period of sharp reversal, which then breeds frustration when objective reality departs from expected reality (Davies, 1979).

[xiii] Graphic of rice prices from the World Bank, 1998, *Addressing the Social Impact of the Crisis in Indonesia: A Background Note for the 1998 CGI*, <http://www.worldbank.org/html/extdr/offrep/eap/cgi98/soccris.htm> (21 April 1999).

[xiv] In the particular case of Iraq, as major military operations were drawing to a close came the apparently-unexpected need to rapidly shift the Coalition's military efforts at disrupting Iraq's infrastructure to undoing the very damage they had caused (for which special retraining of military personnel was undertaken), especially in regard to normal distribution mechanisms for food, water, electricity, communications, and so on, to the Iraqi citizenry. It should be noted that this turnabout effort, albeit hasty, was successful – six months after the invasion some commodities were in equal or greater availability than before the invasion (L. Paul Bremer, 2003).