



# Kampuchea: Looming Food and Refugee Problems

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An Intelligence Memorandum

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EA 82-10064  
June 1982

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# Kampuchea: Looming Food and Refugee Problems

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## An Intelligence Memorandum

*Information available as of 20 May 1982  
has been used in the preparation of this report.*

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This memorandum was prepared by [redacted]  
[redacted] of the Office of East Asian Analysis and by  
[redacted] of the Office of Global Issues.

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Comments and queries are welcome and may be  
addressed to the Chief, Southeast Asia Division,  
OEA, [redacted]

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This memorandum has been coordinated with the  
Directorate of Operations and with the National  
Intelligence Council. [redacted]

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**Kampuchea: Looming Food  
and Refugee Problems**

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**Summary**

Kampuchea's 1981-82 rice harvest is inadequate to feed the population. While only scattered shortages are now reported—the crop season ended in April—we expect that a widespread shortage will develop in the months preceding the next major harvest in December.

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Phnom Penh cannot count on external help to cover a major shortage. The Soviets delivered only half the food aid they pledged last year and are shifting emphasis to technical and developmental support. Vietnam will be no help; it still cannot produce enough to meet domestic needs. Western donors are reluctant to make up the difference, mainly because they do not want to shore up the Heng Samrin government.

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In the absence of substantial external food aid, there will probably be a large flow of Kampuchean to the Thai border later this year. The border camps, which now hold about 290,000 Kampuchean, had up to a million refugees following the 1979-80 exodus. Although the influx this year will not match that of 1979-80, it could still cause sufficient security problems for the Thai that they might try to push Kampuchean back across the border. In any event, the Thai will be looking for more aid from the West to feed the refugees.

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*Agricultural Problems*

*Since guerrilla activity picked up in the early 1970s, the food situation in Kampuchea has been tenuous. In a good year the country can barely produce enough rice to meet subsistence needs. In a poor year the crop can easily fall to levels that mean famine.*

*Food production is hampered by problems stemming from social upheaval and a decade of war. Since the early 1970s, an estimated two-thirds of the draft animals have been lost, and nearly all farm machinery has been destroyed. A farmer without draft animals is only about 10 percent as productive as a farmer with a pair of water buffalo. Even rudimentary tools are in short supply; the government estimates there are only 800,000 hoes for 1.3 million families. Seed and fertilizer are scarce. In addition, only about half of the prewar area is being cultivated. Some fields were ruined by an ill-conceived and poorly executed effort under Pol Pot to change irrigation patterns to large-scale operations. Other areas, particularly near the Vietnam border, are not used because landmines, punji sticks, and other battle debris have not been cleared.*

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**The 1981-82 Harvest**

Analysis of available evidence on the 1981-82 rice harvest indicates the crop probably came in 20 percent below last year's harvest and 30 percent below domestic needs. [Redacted]

[Redacted]

Allowing for milling losses, spillage, and similar problems, it appears the crop will yield about 580,000 metric tons of milled rice. Analysts generally assume 12 kilograms per person per month is a minimum if not totally adequate rice ration, implying that at least 850,000 tons are needed to sustain the 5.9 million people under Phnom Penh's control.

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Weather crippled the 1981-82 rice harvest. Heavy rains at the start of the planting season reduced the area sowed; a late spring and summer drought further cut the area planted and reduced yields; and a mid-August flood washed away or submerged many fields. As a result, we estimate that the wet-season crop, which was harvested in December and January, fell 30 percent below the 1980-81 level—itsself insufficient to feed the population. Government reporting indicates that the dry-season crop, which was recently harvested, was up sharply from last year because a much larger area was planted and yields improved. This year's crop, however, accounted for only about 15 percent of total annual rice output. [Redacted]

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Battambang Province, located in the west along the border with Thailand, illustrates the setbacks encountered nationwide. Battambang normally produces about one-fifth of the country's wet-season rice and had a wet-season planting goal of 300,000 hectares for 1981. In January 1982, however, the Phnom Penh media reported that only 260,000 hectares had been planted, of which 37,000 hectares were lost because of drought and flooding. [Redacted]

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[Redacted] tends to substantiate, yields of less than a metric ton per hectare—21 percent below the yield claimed for the province's 1980 crop. Media reporting and relief agency observers have indicated similar results elsewhere, particularly in the southern and southeastern provinces, which have been hardest hit by the whipsaw effects of drought and flooding. [Redacted]

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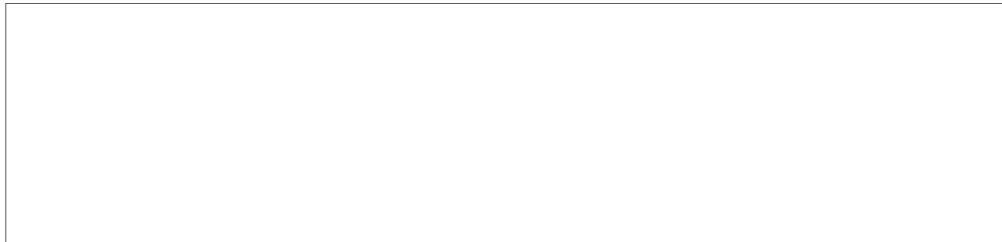
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If the overall crop assessment is accurate, there will be serious problems for much of the population. The estimate of a 30-percent rice deficit uses a minimum figure for domestic needs. Nutritionists say 15 kilograms of rice per person per month are needed to sustain a working population. We have used only 12 kilograms per month in the estimate because it is sufficient to

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*Judging the 1981-82 Crop, Evidence and Uncertainties*

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*The Kampuchean Government maintains an extensive village reporting network. Its estimate of area planted is in line with the areas viewed by the FAO team. Crop yields have been reported by each of the villages and totaled by Phnom Penh.*

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*As to the smaller dry-season crop—only 10 to 15 percent of the yearly total—recent government estimates of area harvested and total output were used.*

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*Also, there are indications that the government will try to double crop some areas during the current wet season. Some of these areas will be planted with a high-yield strain of rice. The country has been using high-yield rice in some areas for two years and may have accumulated enough seed for a significant increase in area planted with the strain this year. It is not clear, however, to what extent double cropping with regular and high-yield strains will be done and, if successful, how much it will ameliorate the anticipated shortage.*

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*The appendix contains detailed information on the elements of the crop estimate.*



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sustain life. Consequently, there would be hardship even if the crop were much larger. Shortages obviously will be more severe in areas where the harvest was particularly poor, and the government compounds the problem by giving preference for food to members of the government, particularly the military.

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*Rice Needs*

*There is some disagreement on the quantity of rice per capita that should be used to calculate Kampuchean needs. The FAO survey team uses an individual requirement of 12 kilograms per month to provide minimum sustenance. This level provides only about half of the caloric requirement of a working adult and assumes that the diet is supplemented by other local foods. Other analysts use 15 kilograms per month as a more normal level of consumption. Even this level is below the average consumption in Kampuchea during the 1960s. In this paper we use 12 kilograms as a conservative estimate for the minimum needs of the population.*

*Food needs are the key uncertainty in linking a rice shortage to migration. While 12 kilograms per month (8 cups of cooked rice per day) is taken as a rockbottom ration, people can live for short periods on less. It is possible that many Kampucheans will choose to remain in their villages eating less than 12 kilograms per month even though they suffer debilitating effects. Moreover, it is not possible to estimate the availability of supplemental foods such as vegetables, fruit, fish, and other items, which usually account for roughly half the diet.*

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**Politics of Food**

Phnom Penh can hope for little additional food assistance from its Soviet and Vietnamese patrons to fill this gap. The Soviets, who suffered their own third bad harvest in a row last year and who are trying to force more rational agricultural policies on the Kampucheans and Vietnamese, delivered only 55,000 of the 100,000 metric tons of food they had originally pledged. Furthermore, the Soviets are shifting away from emergency aid toward long-term developmental and technical assistance to strengthen their leverage and role in Kampuchea. [redacted]

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Nor is Vietnam in a position to help; Vietnam's food production is still below domestic needs. [redacted] the Vietnamese have even diverted foreign food assistance for Kampuchea to their own use. As in the past, Hanoi will probably donate token amounts of food aid for propaganda purposes. [redacted]

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Western nations are reluctant to fill the gap because they do not want to subsidize Vietnam's puppet regime in Kampuchea and because they doubt

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**Table 1****Kampuchea: Supply and Demand for Rice <sup>a</sup>**

	1960s <sup>b</sup>	1979-80	1980-81	1981-82
Area harvested (1,000 hectares)	2,200	690	1,320	1,260
Yield (tons/hectare)	1.22	0.92	1.20	0.98
<b>Output (1,000 metric tons)</b>	<b>2,690</b>	<b>640</b>	<b>1,580</b>	<b>1,230</b>
Losses (1,000 metric tons) <sup>c</sup>	1,210	330	820	650
Milled (1,000 metric tons)	1,490	310	760	580
Estimated population (millions) <sup>d</sup>	6.4	5.4	5.7	5.9
Rice requirement <sup>e</sup> (1,000 metric tons)	1,400	780	830	850
<b>Surplus (deficit) (1,000 metric tons)</b>	<b>90</b>	<b>(470)</b>	<b>(70)</b>	<b>(270)</b>

<sup>a</sup> Data are rounded to the nearest 10.<sup>b</sup> Average of six crop years for which data are available. Crop year begins on 1 May.<sup>c</sup> Postharvest losses from spillage and spoilage, seed reserves, milling losses involved in removing husks from grain, and, for the 1981-82 crop year, set-asides for seed exchange program.<sup>d</sup> The 1960s population estimate is for the entire country. The most recent three years are for the portion of the country under Phnom Penh's control and are based on data released at the time of the 1981 spring elections.<sup>e</sup> Requirement based on 144 kilograms per person per year. The 1960s "requirements" are based on average consumption of 219 kilograms per person per year.

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the reliability of Phnom Penh's information on internal conditions. Furthermore, Western donors are aware that Phnom Penh gives precedence to the military, party cadre, and other government workers in distributing relief supplies.

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Largely at ASEAN urging, donors last fall split what had previously been a single UN aid program for Kampuchea into two separate funding programs, one for the Thai border area and the other for the interior via Phnom Penh. This year, Western donors have committed only about \$8 million for some 31,000 metric tons of rice for the interior compared with 70,000 tons last year. Donor countries at recent pledging conferences generally agree with UN aid officials that the potential for serious food shortages still exists but argue that this reduced program is adequate to maintain the structure of the UN relief pipeline in case additional emergency aid becomes necessary. Such a limited program, however, allows for no slack should conditions deteriorate rapidly. The UN World

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Food Program, the lead agency for Kampuchean relief, estimates that a minimum of three months would be required to gear up assistance and get it to the Kampuchean countryside in the event of serious food shortages. [redacted]

Donor support for the Kampuchean refugees along the Thai border demonstrates, in part, their commitment to Bangkok. This year's border relief budget of \$26 million is, however, based on the needs of the present refugee population. It does not include contingency funds for a substantial refugee influx. Nor does it allow for the cross-border distribution of aid to transient refugees as in past years. [redacted]

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**The View From  
Phnom Penh**

Phnom Penh has few options available to meet the expected food crisis. Among the courses under consideration are:

- Travel restrictions on civilians aimed at preventing migration to urban areas as shortages develop.
- Coercive grain procurement—such as agricultural taxes and forced sales to the state—to procure food for government personnel and the urban population.
- Relocation of nongovernment personnel to the countryside in an effort to increase the agricultural labor force. [redacted]

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So far the regime has avoided heavyhanded polices so as not to alienate the populace. Elsewhere in Indochina, forced collectivization and grain sales have failed to provide substantially more food. Furthermore, adopting such measures would undermine the regime's efforts to build public support. [redacted]

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[redacted] On 4 May the government announced a farmland reclamation program that will encourage relocation from urban centers to the countryside. The plan is based on incentives such as loans, agricultural supplies, food, and money. [redacted]

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As for Western aid, Phnom Penh and its Soviet and Vietnamese mentors are not willing to meet the conditions the Western donors have laid down:

- Allowing the World Food Program to monitor internal aid distribution more closely.
- Targeting vulnerable population groups in specific areas.
- Obtaining a pledge of matching food aid from the USSR. [redacted]

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**The Exodus**

The number of Kampuchean who move to the Thai border this fall will depend on Phnom Penh's actions. Any forced resettlement program would induce many to flee. Other coercive measures, such as forced rice sales, would also add to an exodus. On the other hand, the government may try to contain the problem by limiting internal movement and migration. [redacted]

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In any event, improved internal conditions make it unlikely the exodus will equal that of 1979-80. This year's crop, although short, is almost double the disastrous harvest of 1979-80. Also, many Kampuchean have resettled in their home villages and are attempting to reestablish a livelihood. Furthermore, the regime has made some progress in restoring agricultural, manufacturing, health, and transportation facilities. [redacted]

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Thailand currently has 185,000 Indochinese refugees, including 90,000 Kampuchean, within its borders, and 200,000 more are camped across the border on the Kampuchean side. In discussions with donor countries, the Thai have indicated they view the looming refugee problem with mixed feelings. They see the presence of border refugees and the attending international workers as a buffer between their forces and those of the Vietnamese, but they are concerned that the involvement of resistance forces with the refugees might spawn attacks by the Vietnamese. They also fear retaliation by the Vietnamese against border relief operations in response to the cutback in international aid to Kampuchea via Phnom Penh. More important, they feel threatened by the apparent declining support from other countries for the refugees—fearing they could get stuck with many Kampuchean with little financial help to feed or house them. Bangkok views very negatively those Kampuchean seeking to remain in Thailand indefinitely. [redacted]

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If large numbers of refugees arrive at the border this fall, Thai authorities probably will try to keep them on the Kampuchean side. Since mid-1981 no Kampuchean refugees have been permitted into Thailand except those temporarily pushed across by fighting. In the long run, Thai hospitality will depend mainly on the continued full funding of border-relief operations by Western donors. Bangkok has received sufficient resources to handle its current refugee population but will insist on increased funding for new arrivals and probably for a renewed cross-border "land bridge" of food aid.

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**Longer Term**

Phnom Penh recently announced its intentions to restore agriculture to the self-sufficiency level enjoyed during the 1960s—planning to more than double the area planted over the next five years. The intent is to motivate some of the urban populace to reclaim fallow land by offering financial incentives, agricultural supplies, and equipment and food.

Given the lack of resources, this goal will be difficult to meet. Rebuilding the draft animal herd is the key to expanding area and yields, but this requires many years. Following World War II, a number of war-ravaged Asian economies required a decade to rebuild their herds, even with the infusion of substantial amounts of foreign aid and imported livestock. Labor shortages and a scarcity of trained administrative and technical personnel resulting from Kampuchea's substantial loss of population will also hamper national recovery.

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**Table 2****1981-82 Rice Production**

	Phnom Penh Media Reports (May 1982)	FAO Estimate (November 1981)
<b>Wet-season production</b>		
Planned area (hectares)	1,700,000	1,700,000
Planted area (hectares)	1,350,000	1,199,700
Flood and drought losses (hectares)	197,000	166,300
Other losses (hectares)	30,670	29,300
Late plantings (hectares)		68,100
Harvestable area (hectares)	1,122,300	1,072,200
Yield (metric tons per hectare)	0.920	1.082
Paddy output (metric tons)	1,032,544	1,160,120
<b>Dry-season production</b>		
Planned area (hectares)	150,000	150,000
Planted area (hectares)	137,000	150,000
All losses (hectares)		35,000
Harvestable area (hectares)	137,000	115,000
Yield (metric tons per hectare)	1.460	2.550
Paddy output (metric tons)	200,000	293,250
<b>Total 1981-82 rice production</b>		
Paddy output (metric tons)	1,232,544	1,453,370
All losses and deductions (metric tons) <sup>a</sup>	649,363	762,425
Milled rice for consumption (metric tons)	583,181	690,945

<sup>a</sup> Postharvest losses from spillage, spoilage, and seed reserves (20 percent), set-asides for seed exchange programs (30,000 metric tons), and milling losses involved in removing the husks from the grain (39 percent).



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## Appendix

### The 1981-82 Harvest

In December 1980 Phnom Penh set the planting goal for the 1981 wet-season rice crop—Kampuchea's major harvest—at 1.7 million hectares, a 13-percent increase over the unmet 1980 goal. Even with good weather, the goal was ambitious given the shortages of draft animals, farm machinery, and fuel. During the spring and summer of 1981, adverse weather reduced chances that the planting goal could be met. Early rains were heavier than usual and caused extensive flooding, especially in the areas bordering the Tonle Sap. A subsequent drought lasted throughout the summer and was followed in mid-August by heavy flooding, which washed away or sub-merged crops near the Mekong River and the Tonle Sap. As a result, we estimate that the number of hectares of harvested wet-season rice fell from 1.23 million in 1980 to just over 1.12 million this year. [redacted] 25X1

Yields per hectare were down sharply during the wet-season. Last year's crop yielded an average of 1.19 metric tons of paddy rice per hectare of land harvested (mt/ha). Phnom Penh recently reported the 1981 crop yielded only .92 mt/ha. A long dry spell during the summer was the major reason for the reduced yields. [redacted] 25X1

The UNFAO's earlier hopes that the smaller dry-season rice crop would make up the wet-season loss have not been met. The FAO's optimistic projection for a 293,000-ton harvest was based on the assumed availability of seed, fertilizer, fuel, and pumps sufficient to assure timely planting and successful propagation of the crop. The assumption has not been realized. One member of the World Food Program team that visited Kampuchea during January 1982 reported that fuel and fertilizer were in short supply, and Phnom Penh media reports indicate that fertilizer was concentrated in the two provinces expected to account for half of the crop instead of being distributed to all growing areas. Figures attributed to the Kampuchean Ministry of Agriculture indicate that only 137,000 hectares out of the planned 150,000 hectares had been planted. [redacted] 25X1

The Phnom Penh media have reported that the current dry-season rice crop yielded a total of 200,000 metric tons of paddy—a 75-percent increase over last year's dry-season production of 114,500 metric tons, but only about two-thirds of what the FAO had anticipated. Even adding output from this relatively more successful dry season crop, however, total paddy output for the 1981-82 crop year will amount to only 1.23 million metric tons. This is

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more than 20 percent below the 1.58 million metric tons harvested in 1980-81 and less than half the annual average production of the 1960s—a period when the population was roughly the same size as it is today. Subtracting for seed reserves, post harvest losses, milling losses, and other deductions, the net amount of milled rice available for consumption will be about 580,000 metric tons—about 25 percent less than the 760,000 metric tons of milled rice derived from the 1980-81 crops and significantly short of the amount needed to meet Kampuchea's minimum requirements.

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