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**DIRECTORATE OF
INTELLIGENCE**

Intelligence Memorandum

West Pakistan: Resupply Problems

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December 1971

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
December 1971

INTELLIGENCE MEMORANDUM**WEST PAKISTAN: RESUPPLY PROBLEMS**Conclusions

1. India's virtual conquest of East Pakistan makes resupply of that area hopeless. While the situation in West Pakistan is less desperate, the resupply problems there are formidable. The West is dependent on imports for petroleum, coal, munitions, medicines, machinery, transport equipment, spare parts, and raw materials. There are willing suppliers for much of West Pakistan's needs -- for example, Communist China, Iran, and several Arab countries, as well as private firms in Western Europe. Moreover, Pakistan has adequate foreign exchange reserves to purchase its essential needs for at least the next month or so. The problem is that Karachi is the only major port, and it is under attack by Indian air and naval forces. Neither foreign ships nor Pakistan's own merchant vessels have tried to run the Indian naval blockade of Karachi, and even if they did get into the port, they might have difficulty unloading because of damage to cargo-handling and storage facilities. In addition, the single rail route and two good roads leading out of Karachi are vulnerable to interdiction.

2. Land routes into West Pakistan are few, and none offers a viable alternative to Karachi. The Gilgit road from China could handle 1,000 metric tons a day, but climatic conditions often delay or interrupt traffic during January to June. Supply from Afghanistan probably would be denied for political reasons. Only the railroad and the highway from Zahedan, Iran (57 miles from West Pakistan) offers an opportunity for year-round supply. Zahedan also has an airport where air freight for West Pakistan could be transloaded on to rail cars and trucks. However, this city is more than 1,000 miles from Teheran or any good Iranian port, and only one surfaced road connects it with the rest of the country. Even this road contains a

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195-mile mountainous stretch of graveled surface that limits its capacity to 1,000 tons a day, or about 6% of the volume of imports handled at Karachi. The route via Zahedan could be used to move some high-priority ammunition, medicines, drummed petroleum, and spare parts, but it could not sustain even a minimum war effort.

3. Pakistan's small fleet of civil and military transport aircraft could also fly in a limited volume of high-priority goods, but the planes might find it difficult to find safe airfields in West Pakistan. Flights between Teheran and Zahedan would be safer and could lift about 500 tons a day by using all 12 Boeing aircraft and one of the C-130s. An air freight route from China through the northern corridor is possible but would require fighter escort.

Foreign transport aircraft are unlikely to risk landing at any major airport in West Pakistan, although they could carry cargo safely to Zahedan, Iran.

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4. These sharp limitations of land and air routes point to the necessity for the Pakistanis to reopen the port of Karachi. Failing this, their war machine could grind to a halt within a matter of weeks.

DiscussionDependence on Imports

5. West Pakistan normally imports most of its requirements for petroleum, military equipment, medicines, machinery, transport equipment, spare parts, coal, and raw materials. The area has been, however, a net foodgrains exporter for the last three years. Although production was down about 10% this year because of drought, government stocks reportedly are sufficient until the next crop. As a result, no serious food shortages are likely over the next few months, barring a substantial disruption of the distribution system.

Petroleum

6. Domestic petroleum consumption is about 60,000 barrels per day (b/d) under normal conditions, including some 10,000 b/d from a refinery at Rawalpindi that uses local crude oil. Imports, almost exclusively from Iran, are about 50,000 b/d, mostly in the form of crude oil for the two refineries in the Karachi area.

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7. Even under wartime conditions, it is unlikely that domestic consumption could be reduced significantly below 60,000 b/d without causing serious hardship. Diesel fuel and residual fuel oil, used principally for electric power generation and transport, account for almost two-thirds of total consumption. Gasoline and kerosene, used by the military and for public transport, as well as in households and private transport activities, together account for only 25% of total consumption. The potential for rationing is limited; nonessential uses had already been curtailed to save foreign exchange. A further reduction in consumption of more than 15% would severely restrict both military and economic activities. Oil imports of at least 40,000 b/d appear to be a minimum requirement to support the military effort and maintain essential civilian activities.

8. When the war began, oil stocks in West Pakistan were probably about a 30-day normal supply. Since then, increased consumption by the armed forces and loss of stocks from Indian air and naval attacks have doubtless reduced supplies. Several tankers standing off Karachi have been prevented from entering by the Indian blockade.

9. The concentration of petroleum facilities in Karachi makes the petroleum supply extremely vulnerable. All of the bulk storage facilities for crude oil imports, about 75% of the storage for refined products, and about 85% of West Pakistan's refinery capacity are located in the port area. Pakistan could import oil from Iran by land or air, but only in small quantities. In any event, the movement of 40,000 b/d in 55-gallon drums is clearly impossible.

Munitions

10. Pakistan's armed forces are equipped almost entirely with foreign weapons and ammunition. The single major ordnance plant at Wah produces 7.62mm ammunition, several types of artillery shells, and Cobra antitank missiles. It also turns out rifles and parts for Chinese tanks. This production is believed to satisfy only a small part of military requirements; moreover, the plant is dependent on imported raw materials.

11. Communist China probably would resupply Pakistan if there were feasible transport routes. Muslim nations, such as Iran, Jordan, Libya, and Saudi Arabia, may provide some materiel, and private West European arms dealers will readily sell to Pakistan.

12. Pakistan will need ammunition from these sources soon. Chinese weapons probably were accompanied by a 90-day reserve supply, but the intensity of combat in both the East and West points to early exhaustion of stocks. In the 1965 Indo-Pakistani war, Pakistan expended virtually its

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entire 90-day stockpile of artillery ammunition in 22 days. As current supplies are exhausted, the resupply requirement for ammunition could be enormous -- perhaps on the order of 5,000 tons a day for forces in the West.

13. Pakistan faces particular difficulties for certain ground force weapons, such as the Soviet-supplied 130mm guns. Although Moscow certainly would not export ammunition to Pakistan, nor formally permit third country transfers, some quantities could be obtained surreptitiously from other Soviet military aid recipients, particularly Iran.

14. If fighting continues beyond a few weeks, Islamabad will soon need replacements for land armaments and support equipment that have been captured or destroyed. Moreover, requirements for spare parts -- particularly tires, tank treads, and engines -- will mushroom. While no information is available on the size of Pakistan's current reserve inventory of spare parts, Islamabad has been purchasing a large amount from several Western firms since March. Pakistan is undoubtedly cannibalizing worn equipment to salvage as many spare parts as possible.

15. The air force already needs new aircraft. Iran may be willing to provide fighter aircraft and helicopters and China may fly in more MIG-19 fighters. The navy has already suffered substantial losses, but these vessels cannot be replaced quickly.

Other Needs

16. Although petroleum and munitions represent the largest import requirement by far, a variety of other essential items are needed from abroad. Requirements for medical supplies and pharmaceuticals have increased sharply. Islamabad was urgently seeking these items from various sources during November, either in anticipation of all-out war or because of shortages resulting from the fighting in East Pakistan. Imported coal is essential to fuel powerplants and steam locomotives. Other goods needed to support industry and agriculture may have to be forgone. The United States has been the major supplier of imports of this nature, accounting in fiscal year 1971 for about 30% of West Pakistan's imports, excluding petroleum and military supplies. Major US exports to West Pakistan have included vegetable oils, transport aircraft, fertilizer, iron and steel, and machinery. West Germany, the United Kingdom, and Japan have been major suppliers of transport equipment, other machinery and equipment, chemicals, and iron and steel products. These sources presumably will still be available to Pakistan if Islamabad can provide the foreign exchange and solve the transport problem. Communist China has accounted for less than 2% of Pakistan's nonmilitary imports and probably would not be called upon to increase shipments of this nature substantially.

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Financing Imports

17. Pakistan's foreign exchange position is relatively sound, partly as a result of a cutback in imports and a suspension in May of debt payments to foreign governments. Foreign exchange holdings in early December amounted to \$215 million, equivalent to about three months' imports and about the same as a year ago. These reserves are adequate for the next month or two even if Pakistan steps up its cash imports of petroleum and military supplies and even as export earnings are cut back because of the hostilities.

18. Imports will cost more, however. In New York, the India, Pakistan, Ceylon, and Burma Outward Freight Conference has added a war risk surcharge of \$12 per ton on freight for Karachi effective 22 December. British and European-based lines probably will effect similar charges.

19. Some financial assistance might come from friendly Muslim nations that have helped Pakistan in the past. In any event, the level of imports in the near future will depend more on the viability of Pakistan's transportation system than on its foreign exchange position. Foreign ships and aircraft will be most reluctant to enter Pakistani territory, and Pakistan will have to use its meager transport to bring in essential goods.

Merchant Fleet

20. Pakistan has a respectable merchant fleet -- 72 ships⁽¹⁾ having a combined deadweight tonnage of more than 750,000 tons -- but it consists only of dry cargo and passenger ships. Even though the fleet carries less than 10% of Pakistan's foreign trade, it has sufficient capacity to handle most of West Pakistan's nonpetroleum trade now that there is no longer a movement of goods by sea between East and West Pakistan.

21. The only tanker assigned to the merchant fleet was scrapped in 1970, but the Pakistani navy has one 30,000-ton tanker obtained from the United States on loan in 1963. If used in a shuttle service between the Persian Gulf and Karachi, it could handle about one-half of petroleum imports. In addition, the Pakistanis have reportedly chartered an ocean-going tanker.

Air Transport

22. Pakistan has only 41 military and civil transport aircraft (see the tabulation below and Tables 1 and 2); their maximum capacity is 3,900

1. Includes ships of more than 1,000 gross register tons.

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<u>Type of Aircraft</u>	<u>Transport Aircraft</u>	
	<u>Military</u>	<u>Civil</u>
<i>Total</i>	13	28
Boeing 707	--	9
Boeing 720	--	3
De Havilland Twin Otter <u>a/</u>	--	3
Douglas DC-3 <u>a/</u>	--	2
Fokker F-27	1	9
Grumman Albatross (SA-16) <u>a/</u>	4	--
Lockheed L-382 (C-130)	8	2

a. Piston aircraft; all other aircraft are jet or turboprop.

passengers or about 800 tons of cargo. The military aircraft, predominantly C-130s, have ranges varying from 1,000 to 3,400 nautical miles, with modified fuel capacity, and a total maximum lift capacity of 900 troops or 200 tons of cargo.

23. The country's 28 civil aircraft belong principally to Pakistan International Airlines (PIA) and have a maximum capacity of nearly 3,000 troops or 600 tons of cargo. About 75% of this capacity is provided by the Boeing aircraft, which have ranges exceeding 4,000 miles. Most civil aircraft were withdrawn from Pakistan after the war started.

The remainder of the civil air fleet was dispersed to foreign airports; six 707s were sent to Teheran, and other PIA aircraft went to Libya and Saudi Arabia. (For details on the characteristics and lift capability of the Pakistani air fleet, see Tables 1 and 2.)

24. Pakistan's air transport fleet could be supplemented by Iranian aircraft and possibly by transports from Jordan, Libya, or Saudi Arabia. Iran's national airline Iran Air includes two Boeing 707s, four Boeing 727s, and three Boeing 737s and DC-6s. The Iranian Air Force has 27 C-130s and seven C-47s. The other Middle East countries also have Boeing aircraft. It seems unlikely, however, that these countries would risk expensive aircraft by flying into West Pakistan. China might be more likely to use its transport aircraft in such an endeavor than the Middle East countries.

25. Pakistan's air transport could support a small, high-priority supply of arms, ammunition, pharmaceuticals, and spare parts. Use of all 12 Boeing aircraft and one of the ten C-130s could maintain an airlift from the Middle

Table 1

Pakistan: Characteristics of Available Civil and Military Transport Aircraft a/
1 December 1971

Type of Transport Aircraft	Range (Nautical Miles)		Number		Capacity	
	Normal Payload	Maximum Payload	Civil	Military	Passengers	Cargo (Metric Tons)
Boeing 707	6,550	3,320	9		189	17.3 - 46.6
Boeing 720	5,873	3,608	3		180	6.0 - 19.6
De Havilland Twin Otter <u>b/</u>	770	725	3		20	2.0
Douglas DC-3 <u>b/</u>	1,450	660	2		30 - 40	4.3
Fokker F-27	1,580 - 1,610	985 - 1,610	9	1	40 - 48	6.2
Lockheed T-382 (C-130)	3,145	1,847	2	8	92	10.5 - 25.4
Grumman Albatross (SA-16) <u>b/</u>	2,475			4	10 - 22	4.0
<i>Total</i>			28	13		

a. Transport aircraft of at least 20,000 pounds gross weight. Because of rounding, components may not add to the totals shown.

b. Piston aircraft, all other aircraft are jet or turboprop.

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Table 2

Pakistan: Lift Capacity of Available Civil and Military Transport Aircraft a/
1 December 1971

Type of Transport Aircraft	Total Civil Capacity		Total Military Capacity		Total	
	Passengers	Cargo (Metric Tons)	Passengers	Cargo (Metric Tons)	Passengers	Cargo (Metric Tons)
Boeing 707	1,701	155.7 - 418.5			1,701	155.7 - 418.5
Boeing 720	540	18.0 - 58.7			540	18.0 - 58.7
De Havilland Twin Otter <u>b/</u>	60	6.1			60	6.1
Douglas DC-3 <u>b/</u>	60 - 80	8.6			60 - 80	8.6
Fokker F-27	360 - 432	55.8	40 - 48	6.2	400 - 480	62.0
Lockheed L-382 (C-130)	184	21.0 - 50.8	736	84.0 - 203.3	920	105.0 - 254.0
Grumman Albatross (SA-16) <u>b/</u>			40 - 88	16.0	40 - 88	16.0
<i>Total</i>	<i>2,905 - 2,997</i>	<i>265.2 - 598.5</i>	<i>816 - 872</i>	<i>106.2 - 225.5</i>	<i>3,721 - 3,869</i>	<i>371.4 - 823.9</i>

a. Transport aircraft of at least 20,000 pounds gross weight. Because of rounding, components may not add to the totals shown.

b. Piston aircraft, all other aircraft are jet or turboprop.

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East of about 500 tons per day. Pakistan's remaining C-130s, however, probably will continue to resupply troops in the northern border regions with India, despite the threat from Indian fighters.

Road and Rail Transport

26. Once supplies are brought into West Pakistan, they must be moved to points of consumption over a land transport system that is both sparse and vulnerable. Railroads, the primary form of transport, are supplemented by a feeder road system. Inland waterways are negligible. The major rail line extending from Karachi generally northward in the Indus Valley to Lahore is a broad-gauge double-track line with electrification between Kanewhal and Lahore. A broad-gauge single-track line extends on to Rawalpindi and another extends to Jammu. In the center of the country a single-track broad-gauge branch line extends westward 440 miles from Spezand into Zahedan, Iran, but does not now connect with the Iranian rail network (see the maps).

27. Pakistan has adequate motive power and rolling stock to operate its main rail line at maximum capacity. (For details on rail and road transport inventory and route network, see Table 3.) Maintenance of the way and condition of rolling stock is fair. During the 1965 conflict, the railroads performed well, and at other times have demonstrated outstanding efficiency. Workshops in the suburb of Lahore build freight cars and have facilities for maintenance of diesel-electric locomotives.

28. The roads are concentrated in the northern section of West Pakistan where they serve all principal population and industrial centers. The network in the southern and western areas is sparse, although one main truck route parallels the railroad between Karachi and Peshawar. There is also a road paralleling the branch rail line to the Iranian border. These roads could serve as alternates to the railroad. In general, however, movement and supply of military forces by road in West Pakistan would be hampered by climatic and geographic factors, by numerous bottlenecks, and by the low supporting characteristics of all but the main roads.

29. Both the rail and road transport systems are vulnerable to interdiction because of few alternative routes, lack of by-pass routes around major industrial areas, and relatively small inventories of locomotives, rolling stock, and trucks. The rail system in the southern and eastern regions traverses a number of bridges, and many cuts and tunnels are part of the northern mountainous route. Overland, the rail system moves over more than 15 bridges that are 1,000 feet or more in length. Attacks against track facilities probably would cause short-term dislocation, but most could be repaired and bypass routes developed within a relatively short period given reasonable amounts of material and skilled manpower.

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Table 3

West Pakistan: Transport
Network and Inventory

	<u>Broad Gauge</u>	<u>Meter Gauge</u>	<u>Narrow Gauge</u>
Railroads			
Network length (route miles)	4,637	318	380
Double trackage (miles)	635	--	--
Locomotives (number)			
Steam	623	46	41
Diesel	402	--	--
Electric	29	--	--
Passenger cars and other coaches	3,003	158	160
Freight cars <u>a/</u>	35,893	1,073	564
	<u>Miles</u>		<u>Number</u>
Roads			
Network length			
Paved	12,700		
Non-paved improved	12,450		
Trucks <u>b/</u>			58,900
Cars			123,800
Buses			26,270

a. Of which, 23,952 covered wagons, 8,492 open wagons, 3,465 special types for carrying liquids, explosives, machinery, livestock, etc. About 34,660 of the freight cars are four-wheelers, the rest are mostly eight-wheelers. The tank cars carry about 20 tons per car. The average capacity of a two-axle car is 21.4 tons.

b. Trucks are mostly of 3 to 5 ton capacity: for long hauls the 5-ton trucks are modified to carry 7 to 10 tons. The age of most vehicles is five to ten years and they are poorly maintained.

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30. The rail system is most vulnerable in terms of its motive power and fuel supply. If the locomotive repair plants were destroyed or external sources of fuel for both the railroads and trucks severely restricted, the operations of the transport system would be slowed considerably. Pakistan has some 600 broad gauge steam locomotives, 400 diesel locomotives, and 29 electric locomotives. All of the coal must be imported, and domestic petroleum accounts for only about 15%-20% of the petroleum products needed for both rail and road transport. Repair facilities for diesel-electric locomotives, which are located in three cities -- two not far from the Indian border and the other in Rawalpindi -- are vulnerable to attack. Power for the electrified portion of the rail system would be difficult to cut because it is fed from an interconnecting grid.

Supply Routes

31. The only satisfactory supply route to West Pakistan is by sea to the port of Karachi. This port handles almost 6 million tons of import cargoes yearly, and no combination of land or air routes into the country moves anywhere near this volume. Entry of ships into this port has been suspended since 6 December; both Pakistani and foreign merchant ships have been diverted and are not attempting to run the blockade. Four of the five minor ports in West Pakistan are not capable of handling large ocean-going freighters and are primarily fishing ports. The fifth port, Keti Bandar -- 50 miles southeast of Karachi -- has a limited offloading capability, but it is even closer to India than Karachi.

32. It is therefore likely that Pakistan will be forced to run the blockade to maintain supplies of petroleum, ammunition, and other essential goods. One additional tanker would be needed to ensure a flow of 40,000 b/d from the Persian Gulf. The dry cargo fleet could handle goods other than petroleum. Pakistan could also use smaller coastal and river craft to transport arms, ammunition, and medicines from Persian Gulf ports. Detection by Indian naval units would be difficult, and these shallow-draft vessels would be able to beach and to discharge cargoes along the West Pakistan coast, thereby avoiding Karachi. The trip from Bandar Abbas, for example, could be made in three to four days. The volume that could be handled in this manner, however, would be small.

33. The most likely land resupply route is from Iran.⁽²⁾ Shipments originating in the Teheran area or at the Persian Gulf ports of Abadan,

2. Resupply by road from Iran through Afghanistan crossing the West Pakistan border at Spin Baldak/Chahman is also theoretically possible but unlikely because of political complications.

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Khorramshahr, Bandar-Shahpur, or Bushire could move on surfaced roads⁽³⁾ via Isfahan to Zahedan. The route could sustain through traffic of some 540 to 870 tons (170 to 270 vehicles) per day. The major constraint to traffic flow is the 195 miles of gravel road through mountainous terrain between Yazd and Baghin. Distances for major routes are shown in the tabulation below:

<u>Origin and Destination</u> <u>a/</u>	<u>Approximate Miles</u>	<u>Days</u> <u>b/</u>
Teheran - Zahedan	1,050	3.5
Khorramshahr - Zahedan	1,300	4.3
Bushire - Zahedan	1,250	4.2
Abadan - Zahedan	1,350	4.5

a. Via Isfahan.

b. Estimated at 300 miles per day.

34. Some supplies could be moved into Pakistan by truck from China over the Khunjerab Pass-Gilgit road. This 130-mile gravel road connects Sinkiang Province with Gilgit in West Pakistan and is mostly two-lane with passing areas on the short single-lane stretches. Bridges have been upgraded to carry a gross vehicle weight of at least 10 tons. Use of the road is limited, however, by the harsh climate and rugged terrain. Extremely low temperatures and snowfalls in the passes reduce or interrupt mountain travel during January through June. Ice jams during early spring may back water above the road level or damage bridges. Slides are a constant threat to the road and maintenance camps in the valleys. The road requires continuous maintenance, and its estimated capacity is about 1,000 tons (about 300 vehicles) per day under optimum conditions.

35. Indian air attacks on West Pakistani airfields have made air resupply hazardous, and the tonnage that could be carried by Pakistan's air transport fleet would be small in any event. The most feasible airlift operation would be from Teheran or some other city in the Middle East to Zahedan, where cargo would be transferred to road or rail transport. This would also be a safe way to employ PIA's Boeings, which are currently sitting at various airports outside of Pakistan.

3. Two to three lanes, mostly gravel, with some bituminous sections in fair to good condition. Several fords are subject to flooding, and drifting sand often covers the surface in some places.

