

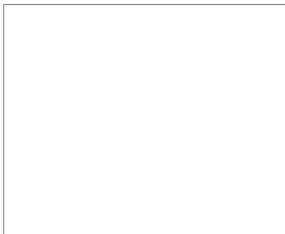
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**PHOTOGRAPHIC
INTERPRETATION
REPORT**

**NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER**

DAMAGE OBSERVATIONS - EAST PAKISTAN



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ABSTRACT

1. This report describes the extent of damage observed to the surface transportation systems, airfields, ports, industries, and military installations in East Pakistan. Each is described separately, and a summary table, a map, and selected photographs are also included.

INTRODUCTION

2. [redacted] provided the first photographic coverage of East Pakistan since the end of fighting in December 1971. Approximately 85 percent of the country was covered on essentially cloud-free photography [redacted] Much of the coverage of the western areas of the country was at an extreme oblique angle. The northcentral and southeastern parts of the country were not covered.

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BASIC DESCRIPTION**Overview**

3. Damage from the December war and pre-war civil disturbances in East Pakistan had the greatest effect on the country's transportation systems. Twenty railroad bridges and twelve major highway bridges were damaged and rendered unserviceable; numerous smaller highway bridges were also damaged. The result was a major disruption to ground transportation systems. The only rail line between the major deep water port of Chittagong and the supply distribution center at Dacca was rendered unserviceable by the damage to five bridges. Although a number of the damaged highway bridges have been by-passed by temporary measures, they will be subject to seasonal flooding.

4. East Pakistan possesses few transport aircraft, and the serviceability of its damaged airfields is of less immediate importance for the distribution of goods and materials. Five of thirteen damaged airfields had, however, been repaired and were serviceable [redacted] The major international field at Dacca was serviceable by [redacted]

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5. Waterways in East Pakistan, the primary means of transportation, remain largely unobstructed. Access to major ports on the Pursur River has possibly been restricted by the sinking of at least five merchant vessels near Chalna. Ports on the Pursur River are the primary transloading and distribution points serving much of the southwest part of the country.

6. The limited industrial and manufacturing facilities of East Pakistan appeared to have suffered little structural damage. All major, and numerous minor mills and factories appeared intact. Except for one destroyed small diesel powerplant and one damaged thermal powerplant, all utilities appeared externally undamaged. The operational status of industries and utilities could not be determined in all instances.

7. Only limited damage was observed at three major military installations. The existing military facilities in East Pakistan were essentially intact.

8. Damage to civilian housing has been very extensive since March 1971. The heaviest concentration of damage was noted in Dacca where more than 4,200 civilian-type dwellings were burned out [redacted] Some reconstruction was evident in late January 1972, mainly in the newer sections of the city. The destroyed dwellings in the older section of the city have not been rebuilt.

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9. A considerable amount of civilian housing, especially in small villages and isolated settlements throughout East Pakistan, was apparently destroyed by fire with only charred foundations remaining.

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Railroads

10. Twenty major railroad bridges in the East Pakistan rail network (Pakistan Eastern Railway) were damaged, resulting in the virtual elimination of all through rail traffic within the country (Figure 1 and Table 1).

11. Five of the damaged bridges are on the vital Chittagong-Dacca rail line, the major trunk of the meter-gage system serving the eastern half of the country. The disability of this rail line prohibits rail distribution of goods from the country's only major seaport at Chittagong to Dacca or other supply points on the eastern rail system. One bridge, the Comilla Railroad Bridge over the Gumti River has been bypassed by a temporary rail bridge. Indications of reconstruction were also evident at two other damaged bridges near Feni: the Fozilpur Railroad Bridge over the Muhari River (Figure 2) and the Zararganj Railroad Bridge over the Fenny River. Three of the thirteen spans of the vital Bhairab Bizar Railroad Bridge over the Megna River (Figure 3) were destroyed and no reconstruction efforts were apparent. In addition to the five damaged bridges, two bridges on branch lines of the Chittagong-Dacca line were damaged.

12. In the western part of the country, west of the Ganges and Jamuna Rivers, the rail system consists of a main north/south broad-gage trunk line with broad- and meter-gage branches. Thirteen rail bridges on the western system were destroyed. Only two of these, the Shra Railroad Bridge over the Ganges River and the Akkelpur Railroad Bridge over the Vanuan River Tributary, are on the main trunk line. The other eleven damaged bridges are on branch lines. Repair of the two bridges on the trunk line could provide rail service to much of the western half of the country. The eastern and western rail system of East Pakistan are connected by a ferry over the Jamuna River.

Highways

13. Damage to twelve major highway bridges and numerous small and single-span highway bridges has caused disruptions to East Pakistan's already poor road system (Figure 4 and Table 1). Eight of the major damaged highway bridges are west of the Ganges and Jamuna Rivers; the other four are east of Dacca. Eight of the twelve major damaged highway bridges have been bypassed by temporary bridges, fords, or ferrys (Figure 5). These bypass measures may not be serviceable during periods of high water in the monsoon season (May thru September). Although most of these damaged bridges are on secondary routes, one bridge on the main route between Dacca and Comilla has been replaced by a ferry (Figure 6).

Airfields

14. The two major airfields at Dacca and 11 other smaller airfields in East Pakistan were damaged by aerial bombing or shelling (Figure 7 and Table 1). Most of this damage was restricted to the runways with little destruction apparent to other airfield facilities. The regular pattern of craters at three fields, Shibganj (Figure 8), Lalmanir Hat, and Shamshernagar, suggests that they resulted from cratering charges. Damage at the Feni Airfield resulted from probable bulldozer cuts across the runway. Craters on the runway at Dacca/Tezgaon Airfield (Figure 9), the country's principal airfield, have been repaired and the airfield was operational [redacted]. The airfields at Ishurdi, Saidpur, Rangpur, and Shibganj have been repaired and are serviceable. The eight other airfields, including Dacca/Kurmitola (Figure 10), are still unserviceable. Only three airfields in East Pakistan--Sylhet, Tangail, and Rajshahi--appeared undamaged.

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Ports

15. East Pakistan's only seaports at Chittagong and Cox's Bazar were not covered [redacted]. The country does have two river ports at Chalna and Khulna, both on the Pusur River. Khulna, the northernmost port could not be interpreted because of obliquity of the photography.

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16. Five (possibly seven) capsized freighters in the Pursur River have possibly on the Mungra Anchorage at Chalna (Figure 11 and Table 1). The river remains navigable,

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however, to small craft and barges. Damage to the port facility at Chalna was apparent at one large storage building, ten warehouses, and at least 200 smaller buildings. Undamaged facilities at Chalna included 14 finger piers, ten warehouses, two large storage buildings, and numerous small open storage areas (Figure 12).

17. Except for the possible restricted use of the Pusur River, the extensive waterways of East Pakistan appeared unobstructed. Dropped spans and debris at damaged bridge crossings have apparently not hindered inland waterway transportation.

Industry

18. The industrial base of East Pakistan is made up primarily of small widely scattered industries and manufacturing plants. The majority of these are located along waterways or within cities. A search of photography revealed 22 jute mills, eight cotton mills, two pulp and paper mills, nine sugar mills, four fertilizer plants, and one flour mill, and 36 unidentified light industries. Positive evidence of damage was observed at only one jute mill (23-49-25N 093-34-40E) located on the east bank of the Lakhya River (Figure 13 and Table 1). Four buildings at this mill had been severely damaged (Figure 14). All other such plants and mills observed appeared undamaged.

19. The Chhatak Cement Plant, the only one in East Pakistan, sustained minimum external damage. A single hole was observed in the roof of the kiln building. The plant was operating on [redacted] as evidenced by smoke emanating from the stack (Figure 15).

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20. The Bheramara Thermal Power Plant Ganges Kobadak received extensive structural damage (Figure 16).

Military

21. All major military installations, except those in the Chittagong area, were covered [redacted] Only very limited damage was observed at four cantonments (Figure 17 and Table 1).

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22. At the Tezgaon Ordnance Depot in Dacca, three large storage buildings sustained structural and roof damage (Figure 18).

23. In the Jessore area, where heavy fighting reportedly took place, damage assessment was difficult because of the extreme oblique photography. Four support buildings at the Jessore Army Barracks and Brigade Headquarters had roof damage.s

24. Structural damage to one large storage building and three vehicle sheds was seen at the Comilla Army Barracks and Brigade Headquarters Maynamati.

25. At Dacca Barracks and Storage Area Kurmitola, two barracks were destroyed and eight barracks were damaged.

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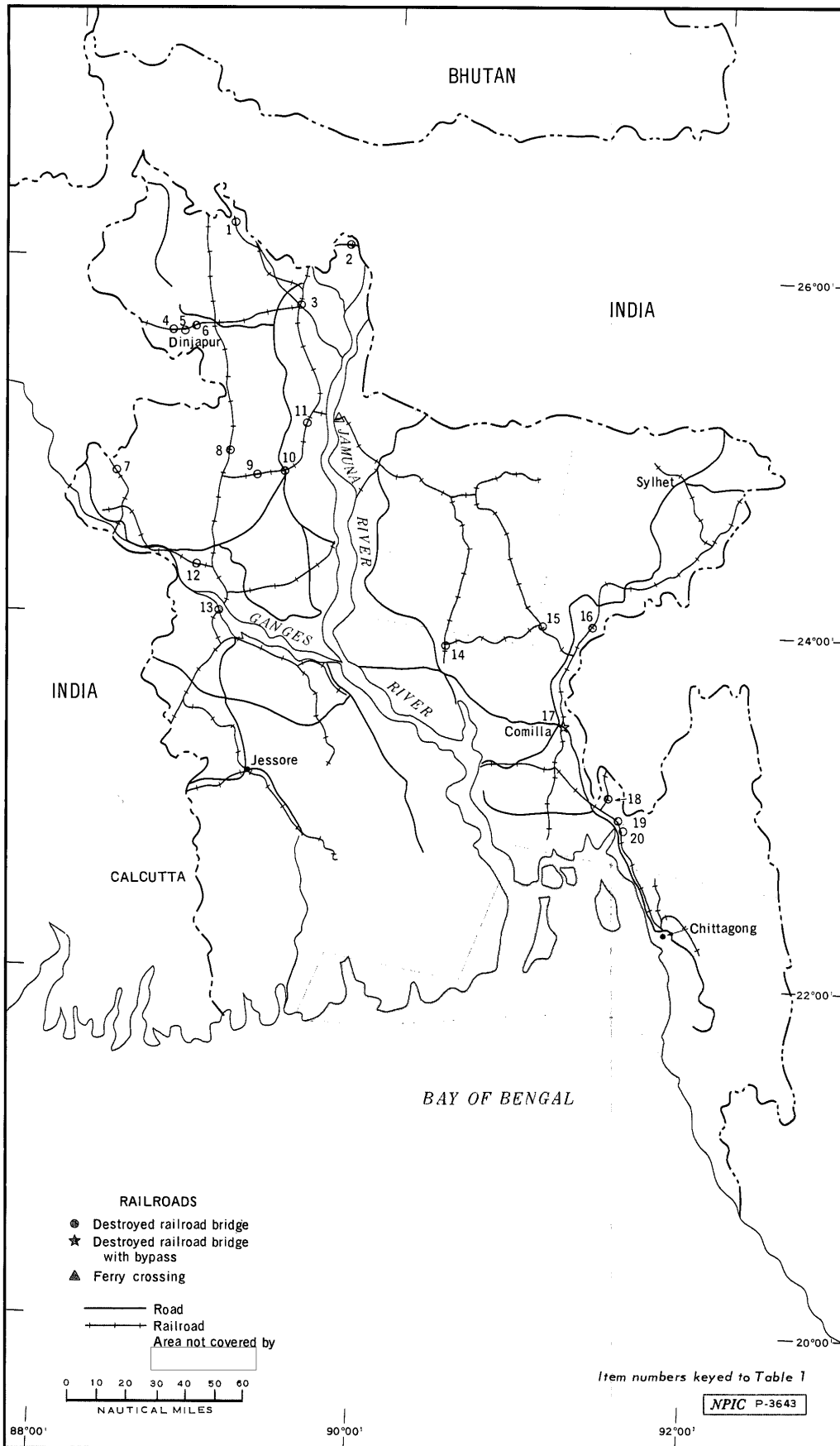


FIGURE 1. RAILROAD DAMAGE, EAST PAKISTAN

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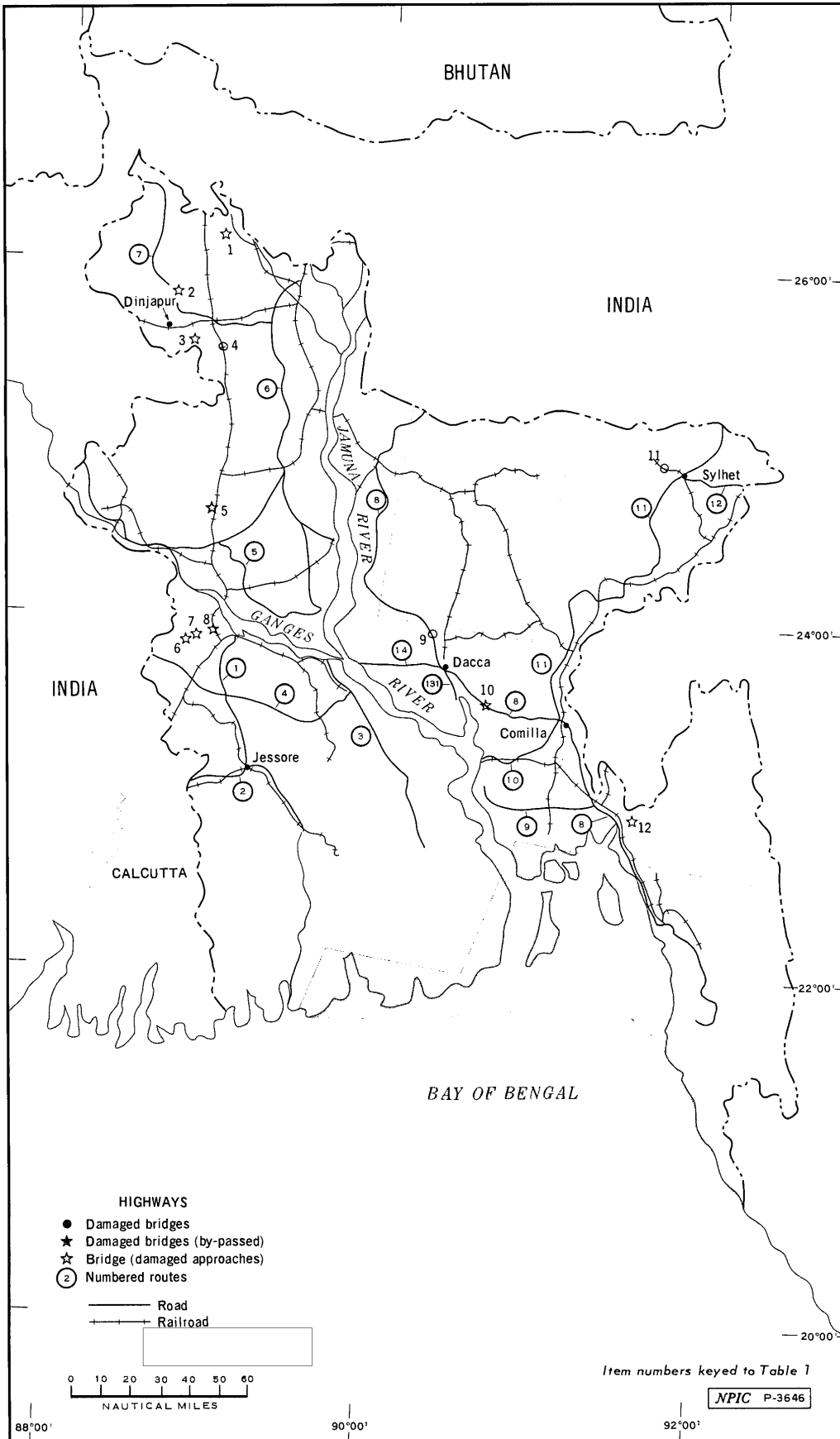
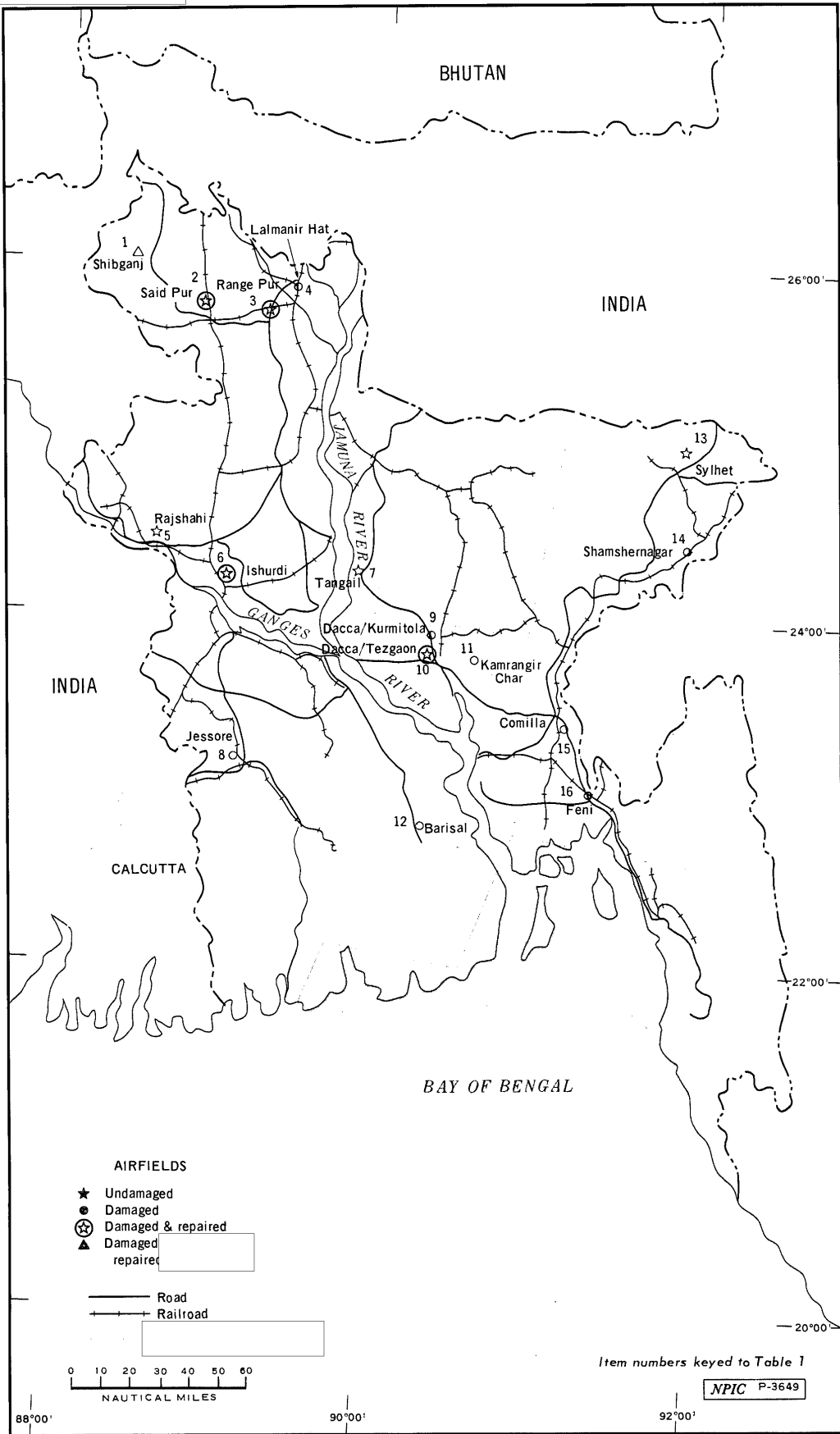


FIGURE 4. HIGHWAY DAMAGE, EAST PAKISTAN

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FIGURE 7. AIRFIELD STATUS, EAST PAKISTAN

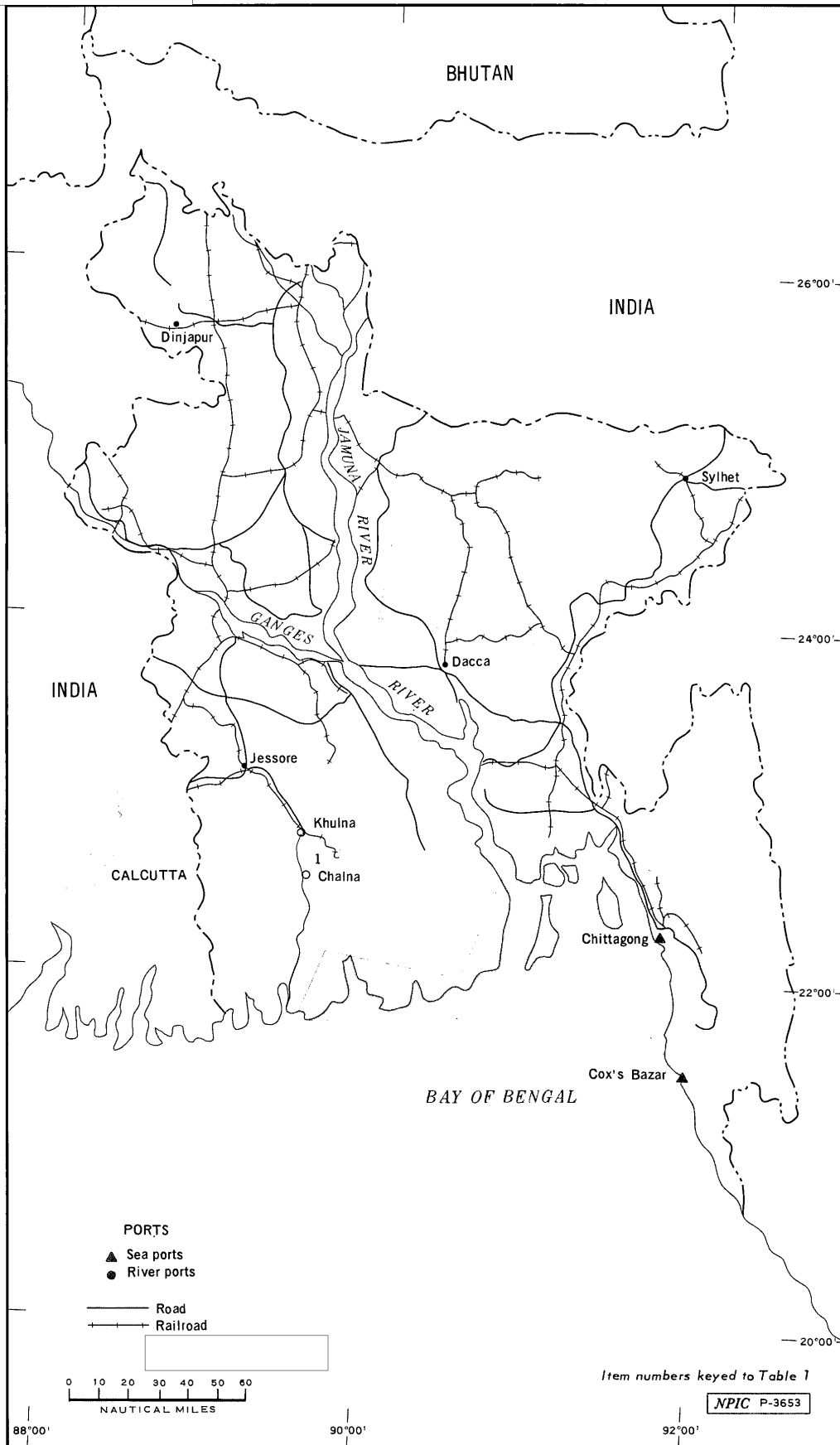
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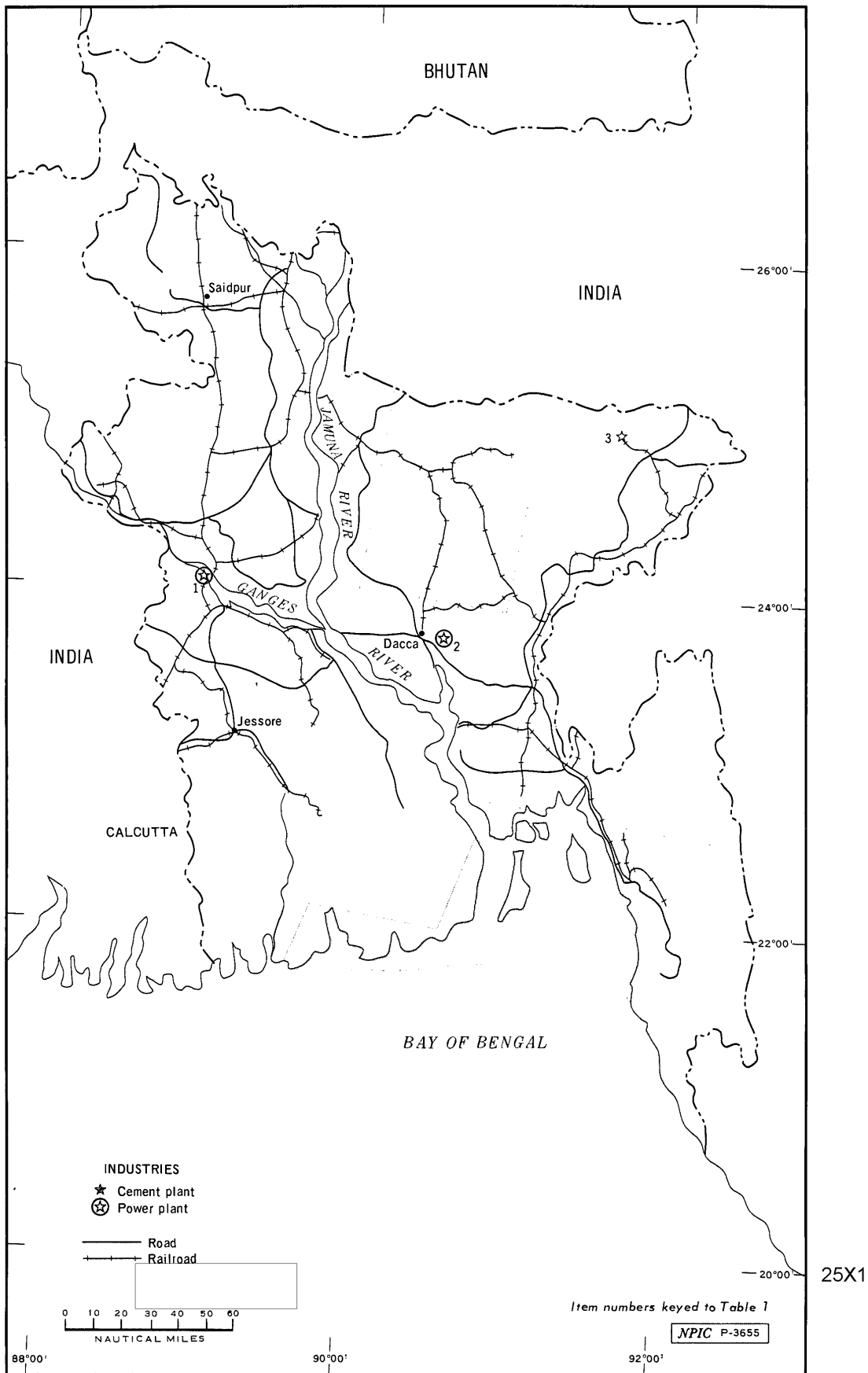
FIGURE 11. PORT FACILITIES, EAST PAKISTAN

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Item numbers keyed to Table 1

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FIGURE 13. INDUSTRY DAMAGE, EAST PAKISTAN

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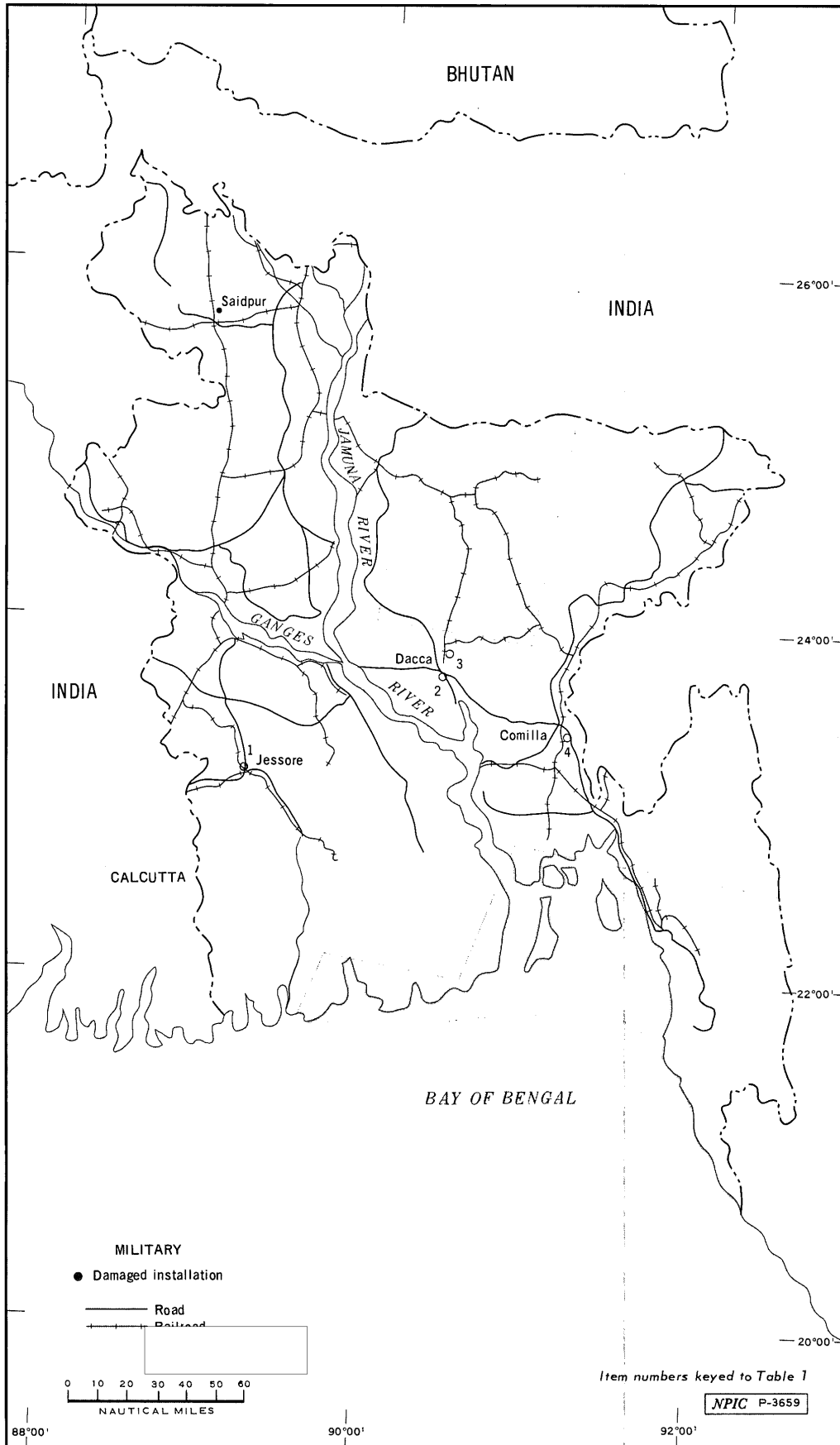
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FIGURE 17. MILITARY INSTALLATION DAMAGE, EAST PAKISTAN

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Table 1. Damage Summary, East Pakistan

Name	BE Number	Coordinates	Type	Damage	Status	Name	BE Number	Coordinates	Type	Damage	Status
RAILROAD BRIDGES (Items keyed to Figure 1):						AIR FACILITIES (Items keyed to Figure 7):					
Mahigan, over (3) Tista River		25-47-30N 089-26-20E	13 spans, through, steel truss	1 span destroyed	unserviceable	Sylhet-Kandigaor (11)		24-54-35N 091-44-00E	5 span, deck type, concrete	5 spans removed or destroyed	unserviceable
Dinajpur, over (4) Purnabhaba Dhaio (Dhapa River)		25-37-18N 088-37-25E	8 spans, deck type, steel truss	2 spans destroyed	unserviceable	Kasimpur Highway (9) Bridge North over Turag River		23-59-35N 090-21-10E	5 spans 2 deck girder 1 half-thru truss	2 spans destroyed	unserviceable
Dinajpur, over (5) Atrai River		25-36-48N 088-42-00E	6 spans, deck type, steel plate girder	1 span collapsed	unserviceable	Domar Highway Bridge (11) over Deonia Nadi		26-06-00N 088-46-40E	6 spans, deck type, concrete	3 spans destroyed	unserviceable ford south of bridge
Dinajpur East, (6) over Kakrai River		25-38-30N 088-45-55E	3 spans, deck type, steel plate girder	1 span destroyed	unserviceable	Feni Highway Bridge (12) over Fenny River (see Figure 5)		22-57-15N 091-33-05E	multi-span deck type, concrete	3 spans destroyed	unserviceable pontoon bridge north of original
Akkelpur, over (8) Vanuan River		24-55-52N 089-00-59E	single track, deck type, steel plate girder	approximately 50% of bridge is down	unserviceable	AIR FACILITIES (Items keyed to Figure 7):					
Tributary Talora, over (9) Nagar River		24-49-24N 089-11-32E	single track, 3 spans, through, steel plate girder	1 span destroyed, 1 span probably destroyed	unserviceable	Dacca/Kurmitola (9) (see Figure 10)		23-50-20N 090-24-03E		14 craters on runway, 1 crater on crossover link, 2 craters on taxiway	unserviceable
Bogna, over (10) Karatoya River		24-51-02N 089-22-45E	3 spans, deck type, concrete beam	1 span destroyed	unserviceable	Dacca/Tezgaon (10) (see Figure 9)		23-46-45N 090-23-03E		23 craters on runway	serviceable--20 craters repaired, 3 craters being repaired
Abdulpur West (12) over Barai River		24-17-23N 088-51-35E	8 spans, deck type, steel plate girder	2 spans on west end destroyed	unserviceable	Jessore (8)		23-10-52N 089-09-50E		at least four small bomb craters on runway	unserviceable
Shra, over (13) Ganges River		24-04-05N 089-02-10E	15 spans, through, steel truss; 2 spans, deck type, steel plate girder	1 span near east end destroyed	unserviceable	Comilla (15)		23-26-15N 091-11-32E		2 large and 2 small craters on runway	unserviceable
Dattapara, over (14) Tungkhal (Dual) River		23-52-54N 090-24-45E	4 spans, through, steel plate girder	2 spans of west bridge destroyed; east bridge undamaged	1 serviceable 1 unserviceable	Sylhet (13) Shamshernagar (14)		24-57-30N 091-52-38E 24-23-40N 091-55-10E		14 craters on runway--probably from cratering charges	serviceable 1 unserviceable
Bhairab Bizar, over (15) Meghna River (see Figure 3)		24-02-38N 090-59-50E	13 spans, 7 through, steel truss; 6 deck, steel truss	3 through, steel truss spans destroyed	unserviceable	Feni (16)		23-02-05N 091-23-58E		3 bomb craters and numerous probable bulldozer cuts in runway	unserviceable
Comilla, over (17) Gumti River		23-29-04N 091-09-57E	5 spans, semithrough, steel truss	3 spans destroyed	unserviceable RR bypass east of original bridge	Shibganj (1) (see Figure 8)		26-01-00N 088-24-10E		25 craters on runway--probably from cratering charges	unserviceable
Fozilpur, over (19) Muhari River (see Figure 2)		22-57-00N 091-30-15E	7 spans, through, steel plate girder	3 spans on east end destroyed, reconstruction in progress	unserviceable	Lalmari Hat (4)		25-53-20N 089-26-00E		16 craters on runway--at least 14 are probably from cratering charges	unserviceable
Zarangaj, over (20) Fenny River		22-54-54N 091-31-48E	9 spans, through, steel plate girder	3 spans on south end destroyed, reconstruction in progress	unserviceable	Rajshahi (5) Saidpur (2) Rangpur (3)		24-26-35N 088-37-07E 25-45-40N 088-54-30E 25-44-55N 089-14-15E		3 bomb craters on runway	serviceable repaired and serviceable appears repaired and serviceable
Bochadhaha RR Bridge (11) over Bangali River		25-06-42N 089-30-30E	7 span, deck, steel plate girder	2 spans destroyed	unserviceable	Tangail (7) Tshudi (6) Kamrangir Char (11) Barisal (12)		24-13-36N 089-54-35E 24-09-10N 089-03-10E 23-47-30N 090-38-45E 22-47-48N 090-18-15E		2 bomb craters on runway	serviceable repaired and serviceable
Nidarabad RR Bridge (16) over Stream		24-01-10N 091-18-50E	5 spans, deck, steel plate girder	3 center spans destroyed	unserviceable	PORTS (Item keyed to Figure 11)					
Bhurbaria RR Bridge (18) over Solonia River		23-03-10E 091-25-40E	3 spans, deck, steel plate girder	2 spans destroyed	unserviceable	Chalna Port Facilities Mungla Anch (1) (see Figure 12)		22-28-05N 089-36-20E		one large storage building damaged, five (possibly seven) merchant vessels capsized in river anchorage, over 200 small buildings damaged or razed	unserviceable
Jamgram RR (1) Bridge over Stream		26-14-50N 089-05-30E	undetermined	entirely destroyed	unserviceable	INDUSTRIES (Items keyed to Figure 13):					
Bhurungamari RR (2) Bridge over Raidak River		26-05-44N 089-43-20E	9 spans, plate truss	3 spans destroyed	unserviceable	Chhatat Cement Plant (3) (see Figure 15)		25-02-50N 091-39-45E		single hole in roof of kiln building; plant is operational	25X1
Rahanpur (Ruhanpur) RR (7) Bridge over Purnabhaba River		24-49-25N 088-19-10E	13 spans, deck, 11 steel plate girder, 2 steel truss	13 spans destroyed	unserviceable	Bheramara Thermal Power (1) Plant Ganges Kobadak (see Figure 16)		24-02-48N 089-02-00E		one large plant building was badly damaged	25X1
HIGHWAY BRIDGES (Items keyed to Figure 4):						Jute Mill (2) (see Figure 14)		23-49-25N 093-34-40E		four buildings were severely damaged	25X1
Dinajpur, over (2) Dhao River		25-48-40N 088-40-50E	4 span, deck type, concrete	3 spans destroyed	unserviceable--bypass ford south of bridge	MILITARY (Items keyed to Figure 17):					
Dinajpur, over (3) Kakrai River		25-32-20N 088-45-50E	multispan, deck type, concrete	2 spans destroyed	unserviceable--bypass ford south of bridge	Tezgaon Ordnance Depot (2) (see Figure 18)		23-45-58N 090-23-40E		extensive roof and structural damage to three large storage buildings	25X1
Phubari, over (4) Stream		25-30-00N 088-57-20E	multispan, deck type, concrete	approximately 50% of bridge destroyed	probably serviceable	Jessore Army Bks and (1) Bde Headquarters		23-10-59N 089-10-49E		at least four support buildings appeared to have holes in roofs	25X1
Atrai, over (5) Gur River		24-36-40N 088-58-20E	3 span, deck type, concrete	both approaches damaged	unserviceable--ford east of bridge	Comilla Army Bks (4)		23-27-13N 091-07-38E		structural damage to one large storage building and three vehicle sheds	25X1
Kushtia-Meherpur (6)		23-52-15N 087-47-20E	6 span, deck type, concrete	3 spans destroyed	unserviceable--ford east of bridge	Dacca Bks and Stor (3) Area Kurmitola		23-48-35N 090-25-00E		two barracks were destroyed and eight barracks were damaged	25X1
Kushtia-Meherpur, (7) over Matabhanga River		23-53-40N 088-52-30E	5 span, deck type, concrete	3 spans destroyed	unserviceable--ford south of bridge						
Kushtia-Meherpur (8)		23-54-20N 088-55-35E	4 spans, deck type, concrete	1 span destroyed	unserviceable--bypass bridge north of original bridge						
Comilla-Dacca (10) (see Figure 6)		23-35-10N 090-38-20E	4 span, deck type, concrete	2 spans destroyed	unserviceable--serviceable ferry east of bridge						

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REFERENCES

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MAPS AND CHARTS

Series 1501 JOG-G, Sheets NF 45-46 & NG 45-46, scale 1:250,000

USAF Joint Navigationl Chart, JNC-37, scale 1:2,000,000

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