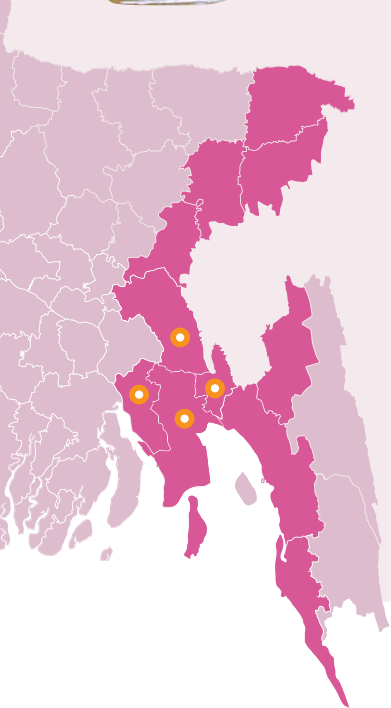


icddr,b's response TO THE 2024 BANGLADESH FLOOD



Photo: Minjah Uddin Ahmed-TBS



In August 2024, the eastern and southeastern regions of Bangladesh faced severe flooding. From 20 August, districts such as Feni, Cumilla, Noakhali, Habiganj, Moulvibazar, Khagrachari, and Rangamati experienced unprecedented water levels, resulting in widespread devastation. By 22 August, heavy rainfall, exacerbated by water released from upstream sources in India, intensified the floods. Major rivers, including the Gomati, Surma-Kushiara, Manu, Khowai, and Feni, overflowed, inundating low-lying areas and impacting regions like Moulvibazar, Sylhet, and beyond.

The National Disaster Response Coordination Centre (NDRCC), in its report dated 7 September, highlighted that 11 districts—Feni, Cumilla, Chattogram, Khagrachari, Noakhali, Moulvibazar, Sylhet, Habiganj, Brahmanbaria, Lakshmipur, and Cox's Bazar—were affected by the flooding. A total of 504 unions and city corporations across 68 upazilas have been impacted, with approximately 5 million people affected. The floods have led to 71 reported deaths (45 male, 7 female, and 19 children) and displaced 207,191 individuals who are currently residing in 3,372 shelters.

icddr,b's IMMEDIATE RESPONSE

With over 60 years of expertise in managing diarrhoea and cholera, icddr,b is committed to leveraging its knowledge and resources to support those affected by the recent floods in Bangladesh. Its scientists, doctors, and nurses are at the forefront of emergency response, often working with the World Health Organization to provide rapid-response teams, case

management training, and laboratory services during serious outbreaks.

The management at icddr,b swiftly addressed a request from the Anti-Discrimination Student Movement (ADSM) on 23 August, providing essential medical supplies to their emergency team despite the weekend. Following this, icddr,b formed

an Emergency Task Force Team, consisting of seven members who meet almost every day to identify intervention areas, collaborate, and implement various activities.

Drawing on its mission of creating a world where more people survive and its extensive experience in managing post-flood situations—

where diarrhoeal disease outbreaks are common—icddr,b has emphasised the critical areas of safe water access, diarrhoea prevention and treatment, diarrhoea case management training, and surveillance of diarrhoeal pathogens.

The Task Force has collaborated closely with the Ministry of Health and Family Welfare (MoHFW), Directorate General Health Services (DGHS), local Civil Surgeons, the Bangladesh Armed Forces Division (AFD), ADSM, Lal Sabuj Society (LSS) and other stakeholders. icddr,b's interventions include medical support, awareness campaigns, and the investigation of stool specimens. Below are some highlights of these responses:

SAFE WATER ACCESS

Water purifying tablets

icddr,b has distributed 173,000 water purifying tablets (Halotab Plus), which have the capacity to purify approximately half a million litres of flood water, making it safe for drinking. These tablets have been provided to the Armed Forces Division (AFD), who are reaching the most vulnerable populations in remote areas, as well as to the Civil Surgeons of Noakhali and Cumilla to support their efforts.

Large-scale water purification solution

The flood, marked by strong currents and high tides, left large areas submerged for weeks after the initial impact. In response, researchers

from icddr,b's Environmental Health Laboratory visited flood-affected Burichang, Cumilla, on 27 August to develop a simple, affordable point-of-care (POC) water purification method. They tested the optimal amounts of fitkiri (potash alum) and bleaching powder and confirmed their effectiveness in the lab.

The team found that 4 grams of fitkiri per 25 litres of water helps settle particles, followed by 1 gram of bleaching powder per 20 litres of pre-treated water ensures safe drinking water.

They demonstrated this two-step process to the local community, providing instructional leaflets. In a pilot effort, 100 households in Lakshmipur received water kits that included buckets, clean cloths, mugs, fitkiri, bleaching powder, and soapy water for hygiene.

DISINFECTING SUBMERGED TUBEWELLS

The Department of Public Health Engineering (DPHE) of Bangladesh estimated that 193,533 tubewells were partially damaged and 49,486 fully damaged during the 2024 floods, with 80% of government-installed tubewells submerged. Based on previous studies conducted by icddr,b and Columbia University, USA, icddr,b developed a simple three-step process to disinfect tube-wells that were submerged.

icddr,b distributed 8,000 leaflets locally, detailing this method, and

disseminated the information on social media for wider outreach. Advocacy is also underway with various social institutions and informal groups, including ADSM, to ensure this disinfection process is widely adopted.

Plans are in place to deploy icddr,b teams to flood-affected communities to demonstrate the tube-well disinfection process, ensuring access to safe drinking water during recovery efforts.

ESSENTIAL MEDICAL SUPPLIES

icddr,b responded promptly to the request from the Anti-Discrimination Student Movement (ADSM) on 23 August, supplying essential medical items such as life-saving injections, oral rehydration solution (ORS), IV saline, and first aid supplies. Similar supplies were provided to the Cumilla Civil Surgeon on 28 August and to the LSS for a medical camp in Feni on 28 August.

On 4 September, icddr,b supported the Noakhali Civil Surgeon with four categories of key supplies, including intravenous saline, Halotab, ORS, and antibiotics. Additionally, on 8 September, icddr,b provided six categories of essential supplies to the Lakshmipur Civil Surgeon.

Furthermore, icddr,b is working with LSS to support three additional medical camps and is exploring collaborations with other groups to extend its medical aid efforts.



Household water purification kit



Soapy water for hand hygiene



Women in South Mojupur, Laxmipur Sadar, receiving a demonstration on water purification methods in flood-affected areas, 8 September 2024.



Doctors from icddr,b's Matlab Health Research Center, in collaboration with the Bangladesh Navy, provided free medical care and medicine to flood victims in Fulgazi, Feni on August 29, 2024.



A team of 15 doctors from Dreamers Foundation and public medical institutions participated in hands-on training at icddr,b's Dhaka Hospital, the world's largest diarrhoeal disease hospital on 5 September, 2024

ON-SITE MEDICAL TEAMS

On 29 August 2024, icddr,b organised a free medical camp at Fulgazi Pilot Girls High School in Feni, one of the most severely affected districts by the recent flash floods. Flood-affected residents from Fulgazi and surrounding areas sought medical assistance for a variety of health issues, including cold, cough, fever, abdominal pain, diarrhoea, cuts, allergies, and scabies. Expert doctors from icddr,b's Matlab Health Research Center provided both medical care and free medicines. Attendees were also educated on simple methods to purify floodwater and how to respond to cases of diarrhoea. This camp was made possible through full cooperation from the Bangladesh Navy.

In addition, icddr,b deployed another medical team to Noakhali based on request from the Civil Surgeon for diagnosis and treatment of Acute Watery Diarrhoea (AWD) from 4–8 September. The 6 member team offered support to the Noakhali Sadar, Begumganj, Senbag, and Sonaimuri Health Complexes using RDT for diagnosis of cholera as well as for treatment of diarrhoeal diseases.

At the request of the Bangladesh Army, an icddr,b team has been deployed in Feni 250 bedded Sadar Hospital since 4 September to address ongoing needs.

icddr,b continues to coordinate with the Civil Surgeons of the affected districts and the Armed Forces Division, standing by to deploy additional medical teams as necessary.

DIARRHOEA CASE MANAGEMENT TRAINING

In response to the flood crisis and subsequent diarrhoeal disease outbreaks, icddr,b is offering comprehensive training programmes to equip healthcare providers with effective management skills. Training is available both in-person and online, including hands-on sessions at icddr,b, day-long courses at Upazila health complexes, mobile units for field medical camps, and virtual sessions.

On 4 September, icddr,b conducted a two-hour online training session on the clinical presentation and management of diarrhoeal diseases, with 44

participants from Shandhani, the Bangladesh Army, Akij Foundation, and Dreamers Foundation. On 5 September, 10 doctors from Dreamers Foundation and public medical institutions participated in hands-on training at icddr,b's Dhaka Hospital, the world's largest diarrhoeal disease hospital. Later that day, icddr,b doctors trained 66 doctors at ADSM's programme at TSC, Dhaka University. Additionally, an icddr,b expert provided rapid training in several Upazilas of Noakhali from 4–5 September.

On 9 September, 60 participants from Bangladesh Army, Bangladesh Navy, LLS, Akij Foundation, and local health workers attended an online session.

icddr,b scientists observed that the inappropriate and indiscriminate use of antibiotics and anti-diarrhoeal agents in outbreak areas remains a common issue, reinforcing the need for more hands-on training in case management. These efforts focus on diagnosing dehydration, improving patient management, reducing unnecessary antibiotic use, promoting correct ORS use, and raising awareness on diarrhoea prevention.

IN-HOUSE ORS PRODUCTION

In late August, when ORS was unavailable in the market, icddr,b received numerous requests for this vital treatment. Drawing from past flood experiences, the task force decided to produce ORS in-



icddr,b staff are voluntarily producing ORS in-house to distribute to those affected by the floods.

house, adhering to WHO GMP and DGDA standards. Sample packets were submitted to DGDA, and on 8 September, they confirmed the test results met global standards.

On 9 September, icddr,b began producing 100,000 ORS packets. By 15 September, 9,222 sachets had been produced, with 4,000 given to the Bangladesh Army for distribution on 12 September. This voluntary initiative has strong support from icddr,b staff, preparing for potential large-scale outbreaks.

COMMUNICATIONS AND ADVOCACY

icddr,b produced and distributed 38,000 copies of three leaflets addressing key post-flood issues, including tubewell disinfection, flood water purification, and diarrhoeal disease prevention and treatment. icddr,b is also grateful to celebrities, media outlets, and influencers, including Ms Nusrat Imroz Tisha, for amplifying these leaflet's reach on social media.

Dr Tahmeed Ahmed, icddr,b's Executive Director, spoke at a Prothom Alo roundtable, one of Bangladesh's highest-circulated newspapers. He highlighted post-flood health strategies for vulnerable groups such as children, pregnant women, breastfeeding mothers, the elderly, and those with NCDs. He emphasised the importance of simple water purification methods and hygiene, promoting icddr,b innovations like soapy water.

Our medical teams have reported critical issues, including misuse of

প্রথম আলো
ড. তাহমিন আহমেদ
নির্বাহী পরিচালক, আইসিডিআরবি

বন্যা বা এই ধরনের দুর্ঘটনা-পরবর্তী সময়ে ডায়রিয়া হয়। ডায়রিয়ার পাশাপাশি রক্ত আমাশয়। এর সবচেয়ে ভয়ানক সমস্যা হলো খাবার স্যানাইজেশন ও জিঙ্ক। বন্যাদুর্গত অঞ্চলে খাবার স্যানাইজেশন ও জিঙ্ক সরবরাহ নিশ্চিত করতে হবে। ডায়রিয়া ও কলেরার চিকিৎসা ব্যবস্থাপনায় প্রশিক্ষণ দিতে হবে। কোন ক্ষেত্রে আন্টিবায়োটিক দিতে হবে ও কোন ক্ষেত্রে দিতে হবে না, এই বিষয়টি জানাতে হবে। গবেষণায় এসেছে ডায়রিয়া আক্রান্ত শিশুরে ১০ দিনের জিঙ্ক ওষুধ দেওয়া হলে মৃত্যুর ঝুঁকি অনেক কমে যায়।

বিশুদ্ধ পানির অভাবে বেশি সংকটের বিষয়টি গণমাধ্যমে উঠে এসেছে। সেখানে যে পানি আছে তা বিশুদ্ধ করে পান করতে হবে। ডিপিএইচই-এর একটি পানি বিশুদ্ধকরণ মডেল রয়েছে। এ ক্ষেত্রে প্রথম কাপড় দিয়ে পানি ঝেঁকে নেওয়া হয়। এরপর ফিল্টারের পোশামো হয়। পরিশেষে ব্লিচিং পাউডার কিন্দো স্যানাইজেশন দিয়ে পানি বিশুদ্ধ করা হয়। এ জন্য প্রতিটি বাড়িতে দুটি করে ড্রাম ও একজন গ্রাউন্ডহেল্পার ব্যক্তি কে পানি বিশুদ্ধকরণ প্রশিক্ষণ দেওয়া যেতে পারে। আইসিডিআরবির গবেষণায় এসেছে, সোফি-গোটার থেকেও পানির মতোই কার্যকর। সেড্‌সিটার পানিতে চার চামচ থেকেও ডিটারজেন্ট পাউডার যোগ করে সোফি-গোটার বানানো হয়। এই পদ্ধতিটি সহজ ও সাহায্যী।

দুর্ঘটনাকালে একজন কলেরার আক্রান্ত হলে তা দ্রুত ছড়িয়ে পড়তে পারে। এটা প্রতিরোধের জন্য পানি, সাবান ও সোফি-গোটার খুবই গুরুত্বপূর্ণ। এর পাশাপাশি প্রাণ কলেরার আক্রমণের কথা চিন্তা করা যেতে পারে। অসুস্থ হাত পরিষ্কার করার সময় ডিউব-ওয়েলের মুখ স্পর্শ করে ফেলে। তখন কলেরা বা টাইফয়েডের জীবাণু থাকলে সেটি ডিউব-ওয়েলের মুখে গেলো থাকে। এটি সজ্জামার অন্যতম উৎস। সে জন্য ব্লিচিং পাউডার বা চাপ দিয়ে সব পানি বের করে দিতে হবে। এ ছাড়া সোফি-গোটার দিয়ে ডিউব-ওয়েলের মুখ পরিষ্কার করতে হবে।

এ ধরনের যেকোনো দুর্ঘটনা পীচ ধরনের লোক বেশি আক্রান্ত হয়। প্রথমত, পীচ বহরের কম বয়সী শিশু। দ্বিতীয়ত, অঙ্গস্ফা নারী। তৃতীয়ত, শিশুর দুধ খাওয়ানো এমন মা। গর্ভাবস্থার চেয়ে দুগ্ধপান করানো অবস্থায় পুষ্টির প্রয়োজন বেশি। চতুর্থত, প্রাণি মানুষেরা। পঞ্চমত, অসুস্থদের রোগে আক্রান্ত ব্যক্তি। বিশেষ করে ডায়ালিসিসে আক্রান্ত রোগী। দুর্ঘটনের সময় তাদের খাবার ও ওষুধের ঠিক থাকে না। ফলে তাদের ডায়ালিসিস বেড়ে যায়। এ পীচ শ্রেণির মানুষের বোঝা বিষয়টি নিয়ে আলোচনা করে ভাবতে হবে।

বাংলাদেশে এ মুহুর্তে অপুষ্টির হার ১০ থেকে ১১ শতাংশ। দুর্ঘটনাকালে আগামী পীচ-হয় মাসের মধ্যে এই হার আরও বেড়ে যাবে। অপুষ্টিতে ভোগা শিশুদের মৃত্যুর ঝুঁকি ৩ থেকে ১২ শতাংশ বেড়ে যায়। এ মুহুর্তে ভোগা শিশুদের ক্ষেত্রে মাসের বুকের দুধ খুবই গুরুত্বপূর্ণ। বাংলাদেশ বডেমোফিক হেলথ সার্ভে অনুযায়ী শুধু স্কেনী ও কুমিল্লার বুটচর এলাকায় ৭৫ হাজার গর্ভবতী নারী রয়েছে। এসময় অঙ্গস্ফা নারী ও গর্ভের সন্তানের পুষ্টি চাহিদা মেটাতে হবে। এদের জন্য একটা রেশনের ব্যবস্থা করতে হবে, যা আগামী এক থেকে দুই মাস চালু রাখতে হবে। অঙ্গস্ফা নারীকে প্রতিদিন একটি করে মাইক্রোনিউট্রিয়েন্ট ট্যাবলেট দিলে তাঁর অপুষ্টি চাহিদা পূরণ হয়। যেকোনো জরুরি পরিস্থিতির পরই প্রবাসীদের পুষ্টিহীনতায় তেমনো। সর্বশেষ ডায়ালিসিস ও উচ্চ রক্তচাপের রোগীদের মেন পুষ্টির চাহিদা মেটাতে হয়। তাদের ওষুধ খাওয়া মেন আবার চালু করা হয়, সেই উদ্দেশ্যে দিতে হবে।

06/09/2024 Common Fig 13

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water purifying tablets, improper ORS preparation, use of feeding bottles which could lead to risks like hypernatraemia, and the indiscriminate use of antibiotics. To address these, icddr,b is producing educational videos on the safe use of

antibiotics, proper ORS preparation, and correct handling of water purifying tablets, along with repurposing existing videos to reinforce these important messages.

Nusrat Imroz Tisha explaining how to make ORS properly

Scan the QR code to watch a video.

LOOKING AHEAD

As icddr,b continues to support communities affected by the 2024 floods, we extend our gratitude to all the organisations, partners, and individuals who have contributed to these efforts. Their support has been crucial in ensuring effective response and recovery. We remain committed to addressing the ongoing challenges and enhancing our collaborative efforts to safeguard public health in these difficult times.



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