Autonomous Aid Balloon Field Manual

Civilian-Deployed Autonomous Aid Balloons (CDAAB) for Gaza, *Version 0.2 – July 2025*

This document provides comprehensive information for teams building and deploying autonomous aid balloons into Gaza from surrounding areas.

Full toolkit contents with translations are available at github.com/CDAAB/CDAAB .

Background

In the face of complete food system destruction and a deliberate blockade on humanitarian access to Gaza, conventional aid channels via land, air, and sea have been obstructed or politicized. Civilian-Deployed Autonomous Aid Balloons (CDAAB) offer an alternative: a peaceful, lawful, non-invasive delivery mechanism that circumvents current barriers using widely accessible materials. Balloons are particularly appropriate for use in this challenging context as they are:

- Nonviolent, demilitarized, and deprioritized as targets
- Hard to intercept, easy to deploy: Launched in clusters and carried by wind, balloons are small, irregular, and unpredictable. It is difficult to block ballons without intensive effort or airspace control.
- Accessible, scalable, and relatively cheap: They can be built and launched by civilians with basic materials and minimal training, using open-source instructions. This allows for decentralized, grassroots coordination.
- Lawful under international humanitarian law: Delivering food to starving civilians is protected under the Geneva Conventions and ICESCR. Balloons operate without border crossings, airspace violations, or territorial engagement.

This guide is improved with input from users and technical experts. Please direct all feedback and requests to CDAAB@protonmail.com .

A History of Similar Actions

Balloon delivery into Gaza has multiple precedents across decades of civilian, political, and symbolic actions. Balloons have crossed into Gaza from both northern and southern borders, including:

- Protest and propaganda balloons launched from southern Israel into Gaza since the early 2000s
- Incendiary and leaflet balloons launched by non-state actors from Gaza into Israel, often traveling 20–40 km with minimal altitude control
- Civilian solidarity balloons used in past attempts to send food, letters, or media through coordinated campaigns

These precedents demonstrate that unguided balloons can and do cross into Gaza under favorable wind conditions. CDAAB actions adapt and expand this proven method for neutral, nonviolent humanitarian delivery, optimized for longer range, higher altitude, and strict legal compliance.

This method is imperfect, but it is one of the only peaceful, scalable responses currently available to civilians in the region and around the world who are compelled to secure the right to life and food for besieged populations.

Individuals and teams interested in supporting or deploying aid balloons are encouraged to review this material in full.

Legality, Safety, Ethics, and Risk Advisory

The following outlines the legality, safety, ethics, and risks associated with the civilian assembly and release of autonomous balloons carrying small aid packages of food and medicine into Gaza from surrounding locations.

Humanitarian Action in a Context of Starvation

This effort is grounded in the lawful, nonviolent rights of civilians to prevent starvation where formal channels have failed. The use of autonomous aerial food delivery is a last-resort humanitarian response to mass civilian deprivation and siege. All actions must remain peaceful, proportionate, and rooted in the humanitarian principles of humanity, neutrality, impartiality, and independence.

Legal Framework and Civilian Protections

Launches of autonomous aid balloons to deliver food aid to starving populations are a protected action under the Geneva Convention IV (Article 59), Additional Protocol I (Article 70), the Rome Statute (Article 8), and Customary International Humanitarian Law Rule 55.

Starvation is a war crime. Delivering food aid to besieged civilians is a legal and protected humanitarian obligation.

Participating civilian actors are engaged in unarmed, non-surveilling, non-political humanitarian balloon launches, and are:

- Lawfully protected under international humanitarian law (IHL)

- Entitled to non-combatant status
- Not violating airspace sovereignty under existing treaties
- Acting in line with binding human rights law, including the ICESCR and UDHR

Declaration of Intent

A declaration of intent has been produced to explain the actions of participating civilians. It is recommended that individuals and teams participating in the launch of autonomous aid balloons print, sign, and carry a copy of this declaration of intent.

Declaration of intent from civilians participating in the deployment of autonomous aid balloons to Gaza

We, the undersigned, affirm the following:

1. *We act as civilians, independent of any military, paramilitary, or political organization.*
2. *Our sole purpose is the peaceful delivery of humanitarian aid—specifically food, medicine, and survival materials—to besieged civilians in Gaza, in accordance with international humanitarian and human rights law.*
3. *We act in direct response to conditions of mass starvation, blockade, and the obstruction of aid, where traditional humanitarian channels have failed or been denied.*
4. *We carry no weapons, surveillance tools, dual-use technology, or political messaging.*
5. *Our actions are grounded in: The Geneva Conventions, including Articles 54 and 70 of Additional Protocol I;*
    - *Customary International Humanitarian Law;*
    - *The Rome Statute of the International Criminal Court, which prohibits starvation as a method of warfare;*
    - *The International Covenant on Economic, Social and Cultural Rights, which affirms the universal right to food; The Universal Declaration of Human Rights, Article 25.*
6. *We act under the principles of humanity, impartiality, neutrality, and independence, which underpin all lawful humanitarian relief. We assert our right, as civilians, to take peaceful, nonviolent action to uphold the dignity and survival of others when governments and institutions have failed to do so.*
7. *We understand the personal risks involved and affirm that participation is voluntary, lawful, and undertaken in good faith to prevent suffering.*

Download PDF versions of the Declaration of Intent in relevant languages to print, sign, and present if requested or helpful during launch events.

Public Statement for Onlookers or Officials

The following statement has been prepared for distribution to onlookers or officials during a launch event:

Public statement for onlookers or officials encountering the release of autonomous aid balloons

This is a civilian humanitarian relief action. We are releasing small, unarmed balloons carrying food and medical aid for besieged civilians in Gaza.

Delivering food to starving civilians is a legal right and moral duty. These balloons do not carry weapons, surveillance devices, or political messages.

This action is protected under international law, including:

- *Geneva Convention IV, Articles 54 and 70*
- *International Covenant on Economic, Social and Cultural Rights Customary International Humanitarian Law*

Blocking this aid may constitute a violation of international humanitarian law.

We are peaceful civilians acting in defense of life and dignity. We will comply calmly with lawful instructions. We do not consent to the destruction of humanitarian relief.

Documentation of aid package contents is available on request, and a full legal statement is available here: github.com/CDAAB/CDAAB/tree/main/Legal

If you'd like to learn more about Civilian-Deployed Autonomous Aid Balloons and how to get involved, visit https://github.com/CDAAB/CDAAB/

Download PDF versions of the Public Statement for Onlookers and Officials in relevant languages to print, sign, and present if requested or helpful during launch events.

Commitment to Ethics and Transparency of Humanitarian Actions under Wartime Conditions

The actions outlined in this document and carried out by aligned actors constitute peaceful, civilian conduct under humanitarian law. To maintain legal protection and public trust, all teams must:

- Label aid visibly in relevant languages.
- Take photo proof of contents of each aid package before sealing.
- Keep logs of what was launched, when, and by whom.

Willfully inaccurate accusations of participant wrongdoing represent a violation of international humanitarian law, and will be mitigated proactively and as needed via:

- The publication of photos and videos documenting the building, assembly, labeling, and launch of autonomous aid balloons
- The publication of signed declarations of intent
- The activation of a global network of human rights lawyers and representatives of the UN Human Rights Council and Special Rapporteur on the Right to Food

Personal Risks

Legal Interference

Participants may be stopped, questioned, or threatened by local authorities unfamiliar with the action's legal status. Most regional states (e.g., Türkiye, Egypt, Cyprus, Greece) do not criminalize the use of high-altitude civilian balloons unless it involves surveillance, military hardware, or incitement.

Risk: Unlawful arrest, unlawful equipment seizure, or unlawful detention.

Risk mitigating activities:

- Carry a printed public statement and legal justification, a printed and signed declaration of intent, and evidence of the contents of all packages.
- Never resist or argue. Speak calmly.
- Use only legal names or remain silent, as permitted by law.
- Emphasize that you carry no surveillance or weapons, are acting in accordance with international humanitarian law, and that efforts to restrict such actions may be in direct defiance of international humanitarian law.

Unlawful Violence and Rights Violations

While protected under international law, civilian participants may still be subject to unlawful violence, threats, or mistreatment by state or non-state actors. Such conduct is condemned under IHL and must be documented and responded to via legal channels, media, and humanitarian protection networks. Teams should plan for worst-case scenarios, avoid escalation, and always maintain documentation proving humanitarian purpose and nonviolence.

Risks: False accusations of terrorism or sabotage; harassment, coercion, or unlawful detention; targeted with force or intimidation beyond legal norms.

Risk Mitigating Activities:

- Print and carry the Legal Justification, Public Statement for Officials, and signed Declaration of Intent. Attach labels including project links to all aid packages.
- Photograph sealed aid contents, visible labels, and wind forecasts. Save and encrypt launch logs.
- Use masks, gloves, and anonymity in all photos or videos. Avoid names or voice recordings during actions.
- Avoid military zones, surveillance points, and urban areas. Launch discreetly from rural, coastal, or elevated terrain.
- Assert humanitarian status calmly. Do not argue or resist. Comply if detained or questioned.
- Notify a trusted contact before and after launch. Share launch time and alias or site nickname. Where safe, inform legal monitors or human rights contacts of your planned action.
- Review fallback protocols. Ensure all participants consent, understand the risks, and are mentally prepared.

Physical Safety

Field conditions carry risks of injury or mishap, particularly when handling gas, sharp tools, or when working on rooftops or boats.

Risk: Burns, slips, cuts, balloon bursts.

Risk mitigating activities:

- When possible, recruit functional experts to support actions.
- Wear gloves and closed shoes.
- Handle hydrogen with extreme care, preferring helium when available.
- Follow inflation and tether guidelines strictly.
- Assign a team safety lead for each launch.
- Use discretion and exercise specific care when considering the involvement of children, individuals with limited mobility, or those experiencing other vulnerabilities or marginalizations.

Political Targeting or Reprisal

Balloons may be falsely identified as military threats or incitement. Gaza landing zones may come under retaliatory fire.

Risk: Misrepresentation in media; reprisal in Gaza.

Risk mitigating activities:

- Label all aid packages clearly in at least Arabic and English using provided labels.
- Photograph contents before sealing.
- Maintain detailed build and launch logs.
- If possible, avoid centralized or repeated drop locations.

Surveillance and Data Tracking

Phones and devices may be used to trace identities or locations, or reports may be made that can ultimately lead to future monitoring and targeting of participants.

Risk: Digital monitoring or future targeting.

Risk mitigating activities:

- Use secure messengers (Signal, ProtonMail).
- Disable GPS/location services unless testing drift.
- Never livestream launches or speak names on camera.
- Wear masks and take other measures to shield identity.

Social and Institutional Risk

Public backlash may follow participation. Employers or schools may penalize visible association.

Risk: Dismissal, online harassment, academic sanctions.

Risk mitigating activities:

- Participate anonymously if needed.
- Use pseudonyms, masks, or off-camera documentation.
- Avoid social media activity that links identities to field actions.

Environmental Considerations and Ethics

Under peace conditions, releasing balloons and non-biodegradable materials should be avoided to mitigate environmental pollution. The circumstance in Gaza is a humanitarian crisis, legally and morally necessitating maximum action to mitigate its damage. The right to life supersedes the obligation to prevent minor atmospheric or terrestrial pollution.

The intervention of autonomous aid balloons was specifically identified within this challenging context of destroyed humanitarian aid corridors to balance social, environmental, and personal considerations and costs. While environmental ethics remain important, they are subordinate to the immediate legal and moral duty to prevent starvation. It is a misinterpretation and misrepresentation of international law to impede food assistance to starving populations for the sake of acute pollution mitigation.

Reduce the environmental impact of autonomous aid balloons by:

- Disposing of launch site trash and used canisters ethically.
- Use of sustainable or biodegradable balloon, parachute, packaging, and label materials when available
- Keeping launch areas clean, quiet, and discreet.

Planning, Assembly, and Launch Guide by Proximity Zone

To build and launch effectively, you must know your approximate distance from Gaza. For the purposes of building and deploying effective autonomous aid balloons, identify the proximity of your balloon launch site from Gaza and its corresponding launch zone:

Launch Zone	**Distance to Gaza**
Zone 1	0–50 km
Zone 2	50–150 km
Zone 3	150–400+ km

Below are guides to the minimum recommended building in each proximity launch zone. Teams can refer to other zone build guides for instructions to create larger and more technically enabled balloons, which will increase the likelihood of a successful landing.

Analysis of Likelihoods of Successful Aid Delivery

The following table summarizes the estimated likelihood of successful humanitarian aid package delivery into Gaza. These figures are based on regional altitude wind modeling (e.g., Windy.com, Ventusky); empirical balloon flight data from Gaza-border regions; observed performance of GPS-logged test units and interceptions.

These are planning estimates only. Actual success depends on real-time wind conditions at altitude; aid package weight and fill volume; use of burst control, GPS, and coordinated cluster launch dynamics.

Distance to Gaza	Est. Success Rate	Added Balloon Tech	How to Increase Likelihood
0–50 km	60%	None required (basic lift)	Launch at 06:00/17:00 UTC; verify wind at 500–1000m; label visibly
50–150 km	50%	Mid-altitude, GPS, optional burst control	Launch in 3–5 balloon clusters; confirm 700 hPa winds; fuse or GPS recommended
150–400+ km	10%	High altitude, GPD, mandatory burst control	Launch in coordination with other sites; track 1 in 5; plan burst altitude

Increase success rate by:

- Clustering releases (10+ balloons) to greatly increase delivery likelihood by diluting interception and increasing dispersion over Gaza's area
- GPS tracking every 5th balloon to refine future planning by mapping real drift and burst points
- Using decoy balloons to overwhelm radar or visual interception systems and protect real cargo

Zone 1 Guide — Immediate Border Zone (0–50 km)

Zone 1 launches are fast, low-altitude humanitarian efforts releasing small food and medicine aid packages into Gaza from nearby ground sites. These launches can occur daily from rooftops, rural margins, or open land when wind conditions are favorable. With minimal cost and no electronics, Zone 1 actions are the backbone of the civilian-deployed autonomous aid balloon strategy.

Teams should form locally, act discreetly, and launch in coordination with others in your region. 2–3 person launch teams are ideal, with roles rotating as needed to manage the balloon, prepare aid packages, handle documentation, and conduct weather checks. Designate a leading safety officer,

and ensure their familiarity with the entire CDAAB guidance package. This person leads wind assessment, confirms checklists, and makes the final go/no-go decision.

Consider preparing multiple balloons with aid packages and decoy balloons without aid packages (still labeled) to maximize cluster dynamics of each launch. Launches are additionally recommended to occur at coordinated UTC launch times (06:00 and 17:00 UTC) to synchronize efforts with other launching teams. The more balloons launched, the higher the statistical likelihood of successful aid receipt in Gaza due to cluster effects, including:

- Increased likelihood of aid package delivery by overwhelming interception or disruption efforts
- Maximized visibility, as many launches create a highly visible moment for public and press
- Safety in numbers, making it harder to target or silence a single team
- Generating real-time data if even one balloon is tracked or recovered

Building a Standard Zone 1 Aid Balloon

A Zone 1 aid balloon is a lightweight unmanned system designed to ascend 3–5 km and release an aid package over Gaza within minutes. It requires no electronics, no special equipment, and can be assembled with local supplies. One balloon with aid package attached can be constructed with the following materials:

- Latex balloon (90–120 cm): Often found in party or scientific supply shops. Cost: $3–6 per unit.
- Lifting gas: Helium is safer and more expensive; hydrogen is cheaper and flammable. Rent from welding suppliers or gas vendors. Cost: ~$25–40 per 1–2 m^3 fill.
- Parachute fabric: Reused plastic sheeting, tablecloths, umbrella fabric, or clean trash bags. Free or <$2.
- Aid container: Small cardboard box, foam cooler, or repurposed container (25 cm max). Common in market waste or hardware shops. Cost: free–$2.
- Food or medical aid: Up to 500g of sealed, non-liquid contents: dry rations, oral rehydration salts, infant formula. Cost varies by contents.
- String/twine: For suspension. Readily available. Cost: <$1.
- Label with QR code: Pre-printed from the deployment pack. Multilingual. Must always be included. Cost: printing only.
- Plastic sheet or tape: Waterproof the label. Cost: <$1.

Teams should prepare balloons with aid packages indoors or in a concealed outdoor space before heading to the launch point. One balloon with an aid package can be assembled by following these steps:

1. Inflate and Test the Balloon
    I. Lay out the latex balloon (90–120 cm) on a clean, non-abrasive surface.
    II. Connect the nozzle from your helium or hydrogen source and begin filling slowly.
    III. Stop inflating when the balloon is taut and rounded, not stretched.
    IV. Conduct a tether test: tie a string to the balloon and attach a 500g test weight (e.g., a water bottle). The balloon must rise steadily.
    V. Seal the balloon neck with a tight double knot, cable tie, or balloon clip.
2. Assemble the Parachute

I. Cut or repurpose a square of parachute fabric (~1 meter wide).
II. Punch or cut 4–6 evenly spaced holes near the edges.
III. Tie equal lengths of string or twine (~50 cm each) through each hole.
IV. Gather the loose ends and tie them together at a single point—this is the top connection to the balloon.
V. Ensure the parachute fabric opens cleanly when suspended.

3. Prepare and Pack the Aid Package
   I. Select a small box or lightweight container, no larger than 25×25×25 cm.
   II. Place sealed food or medicine (up to 500g) inside. Use only dry, stable items—no liquids, no glass, no batteries.
   III. Document contents of aid package prior to packing and sealing with photos, videos, and/or item lists. Mark each aid package with a unique identifier, visible or listed in the contents documentation. Be prepared to present documentation upon request. **Careful documentation of contents protects launch teams and the CDAAB effort at large, supporting trust and transparency. Documentation may help prevent destruction or confiscation of aid packages at the time of launch. Documentation is also a key tool in combatting disinformation campaigns. **
   IV. Add padding if needed using newspaper, cloth, or foam to reduce impact shock.
   V. Do not include handwritten notes, flags, or personal symbols.
4. Label the Aid Package
   I. Attach the multilingual label to the exterior of the box, clearly visible. The label must read: *"Humanitarian Food Aid. No weapons, no surveillance, no political content."* and include a link to the legal justification of the effort. Ensure the label includes Arabic and English, and Hebrew, Turkish, Greek, or local languages depending on your location. Download labels here: https://github.com/CDAAB/CDAAB/tree/main/Field_Resources/Aid_Package_Labels
   II. Cover the label with clear tape or place it in a plastic sleeve to protect against weather.
5. Assemble
   I. Tie the parachute suspension cords securely to the top or handles of the aid box.
   II. Attach the parachute's center point to the balloon's string or tether.
   III. Leave ~1 meter of string between balloon and parachute, and another meter between parachute and aid package. Adjust for stability.
   IV. Lift the system briefly to check balance. The aid package should hang directly below the balloon with no tilt or spin.
6. Log and Document
   I. Photograph the sealed aid package with the label visible.
   II. Record: Date and time of build; Launch site nickname; Team name or alias (if applicable); Aid package contents (type and weight); Weather conditions (forecast screenshot if available)

Note on Technical Adaptation of Balloons Launched from Zone 1

Cluster releases (10+ balloons) greatly increase delivery likelihood by diluting interception and increasing dispersion over Gaza's area. GPS tracking in every 5th balloon helps refine future planning

by mapping real drift and burst points. Decoy balloons (empty but labeled) can overwhelm radar or visual interception systems and protect real cargo.

This guide describes a minimum viable build for fast, low-tech launches from nearby areas. However, teams in Zone 1 are not restricted to basic balloons. If feasible, you are encouraged to adapt Zone 2 or Zone 3 balloon features—such as GPS trackers or timed burst devices—to improve accuracy and collect data.

The closer you are to Gaza, the higher your success rate. But additional tracking or altitude control may help refine cluster patterns, adjust future launches, and provide documentation. Any enhancements must not compromise speed, safety, or stealth.

Launching a Standard Zone 1 Aid Balloon

Once a balloon is assembled, it is ready for immediate transport to the launch site. Teams should proceed quietly and avoid drawing attention during transit. Select a quiet, accessible launch location with clear access to the sky. The site must allow for wind testing and clean release.

Appropriate sites may include rural farmland or desert edges, abandoned lots or flat rooftops, and coastal beaches away from road traffic.

Inappropriate sites include those nearby or within military posts, checkpoints, or known surveillance areas; areas with overhead wires or narrow alleys; and most urban locations.

Wind and Weather Check

Wind direction at altitude determines success. A balloon released into the wrong wind will fail to reach Gaza and may drift toward military or urban areas, increasing risk for all.

Use Windy.com or the Windy app on a mobile phone. If you expect limited reception, load the forecast in advance and take screenshots of key times.

Check the following:

- Set altitude slider to 500–1000m
- Set drift target for southern Gaza, ideally the Rafah corridor, where humanitarian need is greatest and interception risk is lowest. Use Windy.com or Ventusky to confirm east or southeast wind at target altitudes.
- Ensure wind speed is between 10–25 km/h
- Confirm calm, clear weather at ground level

Do not launch if:

- Wind is still, circling, or blowing westward or offshore
- Gusts exceed 35 km/h
- Rain, thunderstorms, or extreme heat are forecast
- You feel unsafe or exposed at the site

Take a screenshot of your wind reading and save it in your team's launch log. This protects your intent and shows responsible conduct.

Launch Procedure

Once the balloon is fully assembled, the site confirmed, and the wind verified, your launch should be clean, efficient, and quick:

1. Arrive with all materials pre-checked and packed
2. Designate a lead to call final safety checks and countdown
3. Handle the balloon by its base, keeping it upright and clear of snags
4. Conduct a final scan of the airspace (trees, wires, patrols)
5. Prepare to document the release
6. Wait for a window of open air and low gust
7. Release on cue with a short countdown (e.g., "3… 2… 1… release").
8. Let the balloon ascend vertically before turning away.
9. Repeat steps 2-8 for all prepared balloons

The following should be documented for each release:

- Photo or video of the release (10 seconds max)
- Visible label and timestamp reference (sign, clock, paper)
- Location nickname or coordinates
- Wind direction and forecast screenshot
- Aid type (dry goods, ORS, formula, etc.)

When safe to do so, send release documentation to CDAAB@protonmail.com.

When to Postpone or Cancel Autonomous Aid Balloon Launches

It is recommended that individuals and ground teams never proceed with the launch of autonomous aid balloons if:

- They are feeling unsafe or threatened
- They are near a military zone, prison, checkpoint, or other official or sensitive location
- Wind or weather is unsuitable.
- They are emotionally unstable or seeking confrontation.
- Their launch would endanger others on site, in Gaza, or elsewhere.

Zone 2 Guide — Regional Proximity Zone (50–150 km)

Zone 2 launches are medium-range humanitarian efforts designed to reach Gaza from regional territories farther inland. Launches occur from desert edges, rooftops, coastal sites, or flatland zones when mid-altitude wind conditions are favorable. Because of the greater distance, Zone 2 systems use larger balloons, lighter aid packages, and may incorporate optional tracking or burst control devices.

Teams should form locally, act discreetly, and coordinate with others in your region. 2–3 person launch teams are ideal, with rotating roles for balloon handling, aid package preparation, documentation, and weather analysis. Always designate a lead safety officer familiar with the entire CDAAB guidance package. This person conducts altitude-specific wind assessments, checks systems, and makes the final go/no-go decision.

Decoy balloons are recommended to maximize cluster dynamics. As in all zones, coordinated UTC launch times (06:00 and 17:00 UTC) should be used to create synchronized, multi-point release windows. cluster dynamics increase effectiveness by: increasing the likelihood of successful delivery through saturation; amplifying visibility across regions, making denial or suppression less feasible; creating safety in numbers for teams and packages; generating useful data if any aid packages are tracked or recovered.

Building a Standard Zone 2 Aid Balloon

A Zone 2 aid balloon is a mid-altitude system designed to ascend 5–8 km and drift long distances toward Gaza. It typically carries 200–400g of dry humanitarian goods and may include a simple altitude-based burst control device (e.g., sugar fuse). GPS tracking is optional but encouraged for teams with access to lightweight devices. Each balloon can be constructed with:

- Latex balloon (120–150 cm): Available from party supply vendors, weather balloon sellers, or wholesale markets. Cost: $5–9 per unit.
- Lifting gas: Helium or hydrogen from gas vendors or welding suppliers. Approx. 2.5–3 m^3 per fill. Cost: $30–50 per launch.
- Parachute fabric: Cloth or plastic tablecloth, weatherproof sheet, umbrella fabric. Free or <$3.
- Aid container: Lightweight box or bag, max 20×20×20 cm. Found in local markets or packaging suppliers. Cost: free–$2.
- Food or medical aid: 200–400g sealed items (e.g., biscuits, formula sachets, ORS tablets). Cost varies.String/twine: For suspension and assembly. Cost: <$1.
- Burst control fuse *(optional)*: Sugar string, tape vent, or plug. DIY. Cost: <$1.GPS tracker *(optional)*: Small GSM or LoRa unit with SIM. Cost: $10–25.
- Label with QR code: Required. Multilingual, waterproofed. Printing only.
- Plastic sheet or tape: To weatherproof label and seal aid package. <$1.

Teams should build balloons indoors or in a shielded outdoor workspace. One fully prepared balloon with optional enhancements can be built as follows:

1. Inflate and Test the Balloon
    I. Inflate the 120–150 cm latex balloon slowly until taut.
    II. Use a tether test with a 400g weight (or actual aid package) to confirm lift.
    III. Tie off the neck securely with double knot, zip tie, or balloon clip.
    IV. If using a burst control device (e.g., sugar fuse), install between balloon and parachute string now.
2. Assemble the Parachute
    I. Cut a 1–1.5 meter parachute from cloth or plastic.

II. Make 4–6 holes evenly spaced at the edge.
III. Attach equal lengths of string (~60 cm each).
IV. Tie all ends together at a central point and test the canopy opens freely.

3. Prepare and Pack the aid package
   I. Fill the aid box or bag with up to 400g of dry aid.
   II. Document contents of aid package prior to packing and sealing with photos, videos, and/or item lists. Mark each aid package with a unique identifier, visible or listed in the contents documentation. Be prepared to present documentation upon request. **Careful documentation of contents protects launch teams and the CDAAB effort at large, supporting trust and transparency. Documentation may help prevent destruction or confiscation of aid packages at the time of launch. Documentation is also a key tool in combatting disinformation campaigns. **
   III. Use a cushion made of paper or foam to protect the contents.
   IV. Do not include liquids, batteries, electronics (unless for tracking), or personal items.
4. Label the Aid Package
   I. Attach the multilingual label to the exterior of the box, clearly visible. The label must read: *"Humanitarian Food Aid. No weapons, no surveillance, no political content."* and include a link to the legal justification of the effort. Ensure the label includes Arabic and English, and Hebrew, Turkish, Greek, or local languages depending on your location. Download labels here: https://github.com/CDAAB/CDAAB/tree/main/Field_Resources/Aid_Package_Labels
   II. Cover the label with clear tape or place it in a plastic sleeve to protect against weather.
5. Assemble the Full System
   I. Attach parachute strings to the top of the aid box.
   II. Connect parachute center to balloon tether or burst fuse.
   III. Leave ~1 meter between balloon and parachute, and another ~1 meter from parachute to aid package.
   IV. Confirm balance and vertical hang.
6. Log and Document
   I. Photograph aid package with visible label
   II. Record: Date and time; Aid package weight and contents; Burst fuse or GPS (if used); Wind forecast screenshot; Site nickname and team alias

Note on Technical Adaptation of Balloons Launched from Zone 2

This guide outlines a standard mid-range balloon with optional upgrades. Teams in Zone 2 should carefully consider adding GPS trackers and simple burst control (e.g., sugar fuse or vent plug) to maximize landing accuracy.

While basic designs may still succeed, incorporating even minimal tech significantly improves drift control at this range. If your capacity allows, review the Type 3 (Zone 3) build guide for further enhancements that can be applied here.

Launching a Standard Zone 2 Aid Balloon

Once a balloon is assembled, it is ready for immediate transport to the launch site. Teams should proceed quietly and avoid drawing attention during transit. Select a quiet, accessible launch location with clear access to the sky. The site must allow for wind testing and clean release.

Appropriate sites may include rural farmland or desert edges, abandoned lots or flat rooftops, and coastal beaches away from road traffic.

Inappropriate sites include those nearby or within military posts, checkpoints, or known surveillance areas; areas with overhead wires or narrow alleys; and most urban locations.

Wind and Weather Check

Wind direction at altitude determines success. A balloon released into the wrong wind will fail to reach Gaza and may drift toward military or urban areas, increasing risk for all.

Use Windy.com or the Windy app on a mobile phone. If you expect limited reception, load the forecast in advance and take screenshots of key times. Take a screenshot of forecast for documentation purposes.

Check:

- Altitude: Set slider to 700–600 hPa (~5–8 km)
- Set drift target for the Rafah corridor, where humanitarian need is greatest and interception risk is lowest.
- Speed: Confirm 10–25 km/h winds
- Ground weather: No storms, heavy gusts, or heat extremes

Do not launch if:

- Wind is still or blowing west
- Gusts exceed 35 km/h
- Rain, storm, or excessive heat is present
- You feel unsafe or exposed at the site

Launch Procedure

Once the balloon is fully assembled, the site confirmed, and the wind verified, your launch should be clean, efficient, and quick:

1. Arrive with all materials pre-checked and packed
2. Designate a lead to call final safety checks and countdown
3. Handle the balloon by its base, keeping it upright and clear of snags
4. Conduct a final scan of the airspace (trees, wires, patrols)
5. Prepare to document the release
6. Wait for a window of open air and low gust
7. Release on cue with a short countdown (e.g., “3… 2… 1… release”).
8. Let the balloon ascend vertically before turning away.

9. Repeat steps 2-7 for all prepared balloons

The following should be documented for each release:

- Photo or video of the release (10 seconds max)
- Visible label and timestamp reference (sign, clock, paper)
- Location nickname or coordinates
- Wind direction and forecast screenshot
- Aid type (dry goods, ORS, formula, etc.)
- GPS presence and ID, if applicable

When safe to do so, send release documentation to CDAAB@protonmail.com.

When to Postpone or Cancel Autonomous Aid Balloon Launches

It is recommended that individuals and ground teams never proceed with the launch of autonomous aid balloons if:

- They are feeling unsafe or threatened
- They are near a military zone, prison, checkpoint, or other official or sensitive location
- Wind or weather is unsuitable.
- They are emotionally unstable or seeking confrontation.
- Their launch would endanger others on site, in Gaza, or elsewhere.

Zone 3 Guide — Long-Range & Solidarity Zone (150–400+ km)

Zone 3 launches are long-range, high-altitude humanitarian flights originating from distant coastlines, hills, or offshore platforms across the Eastern Mediterranean. These balloons are designed to ascend above 8 km and drift hundreds of kilometers east toward Gaza. Zone 3 launches serve both funtional and symbolic functions: they extend the geographic reach of food aid delivery and signal broad civilian solidarity across borders. Well-resourced individuals or teams in Zone 3 or beyond may consider providing travel or remote support to actions in Zones 1 and 2.

Zone 3 systems rely on larger weather balloons, lighter aid packages, and precise altitude and wind planning. Small, portable GPS trackers are strongly encouraged, and simple burst control mechanisms are required to ensure that the aid package descends before reaching open sea or unintended regions.

Launch teams should consist of 2–3 trained individuals, including a designated safety officer responsible for altitude wind checks and final decisions. Teams must coordinate launch times with regional clusters to maximize cluster effect and prevent interception or suppression. Wherever possible, launches should occur at synchronized UTC times: 06:00 and 17:00.

Cluster dynamics in Zone 3 are particularly effective when multiple long-range launches are conducted simultaneously from Türkiye, Cyprus, and Greece. Their benefits include:

- Forcing attention from state and media actors through high-visibility overflights

- Diluting the ability to intercept or suppress individual launches
- Increasing the statistical chance of successful landfall in Gaza
- Generating GPS or media data, even if only one aid package is tracked or retrieved

Building a Standard Zone 3 Aid Balloon

A Zone 3 balloon is a high-lift, high-altitude unmanned delivery system. It is designed to reach 8–12 km altitude before bursting, with a slow descent over Gaza or its perimeter. Each system carries a compact, lightweight aid package (100–300g) and requires a burst control mechanism and a GPS tracker.

Materials can be procured through scientific hobbyist suppliers, university labs, or repurposed from weather balloon distributors:

- Weather balloon (150–300 cm diameter): Sourced from online science shops or party wholesalers. Cost: $15–30 per unit.
- Lifting gas: Helium or hydrogen, 3–5 m³ minimum per balloon. Rent large tanks from welding or industrial gas suppliers. Cost: $40–70.
- Parachute fabric: Cloth, Tyvek, Mylar, or strong plastic. Cost: Free–$3.
- Aid container: Foam box, padded envelope, or ultralight carton. Max 20×20×20 cm. Cost: Free–$3.
- Food or medical aid: 100–300g sealed contents (high-nutrition bars, ORS tablets, formula sachets). Cost varies.
- String/twine: Light cordage. <$1.
- Burst control mechanism:
  - *Sugar fuse*: DIY from sugar and thread
  - *Thermal plug*: Seals to fail at altitude
  - *Arduino/barometer* (advanced teams) Cost: $0.50–$20 depending on design.
- GPS tracker (required): LoRa, GSM, or SIM-based unit (e.g., TK-STAR). Must be tested and charged. Cost: $10–25.
- Label with QR code: Multilingual. Required. Cost: printing only.
- Plastic sleeve or tape: To protect label. <$1.

Assembling the Balloon

Zone 3 systems must be built with care. They rely on precision lift balance and often launch from mobile or maritime positions. Assemble the entire balloon indoors, then carry on foot or by vehicle to launch.

1. Inflate and Test the Balloon
   I. Inflate weather balloon slowly to ~85–90% capacity. Monitor tension.
   II. Confirm balloon lift with full aid package and tracker attached. Use a hanging scale or tether test.
   III. Seal the balloon neck tightly.

IV. Attach burst control device (sugar fuse, vent, or plug) between balloon and parachute tether.

2. Assemble the Parachute
   I. Cut or prepare a 1.5–2 meter square canopy.
   II. Tie 4–6 cords to the edges and gather to a center knot.
   III. Ensure the chute opens fully when lifted.
3. Prepare and Pack the Aid Package
   I. Place food or aid contents in a foam-lined box or mailer envelope.
   II. Document contents of aid package prior to packing and sealing with photos, videos, and/or item lists. Mark each aid package with a unique identifier, visible or listed in the contents documentation. Be prepared to present documentation upon request. **Careful documentation of contents protects launch teams and the CDAAB effort at large, supporting trust and transparency. Documentation may help prevent destruction or confiscation of aid packages at the time of launch. Documentation is also a key tool in combatting disinformation campaigns. **
   III. Install GPS tracker: test signal, charge battery, and secure inside.
   IV. Add insulation or waterproofing if needed.
4. Label the Aid Package
   I. Attach the multilingual label to the exterior of the box, clearly visible. The label must read: *"Humanitarian Food Aid. No weapons, no surveillance, no political content."* and include a link to the legal justification of the effort. Ensure the label includes Arabic and English, and Hebrew, Turkish, Greek, or local languages depending on your location. Download labels here: https://github.com/CDAAB/CDAAB/tree/main/Field_Resources/Aid_Package_Labels
   II. Waterproof with sleeve or clear tape.
5. Assemble the Full System
   I. Attach parachute cords to the aid box. Connect balloon tether to parachute or burst fuse.
   II. Leave ~1–1.5 meters between components.
   III. Perform a balance check: the system should lift evenly and descend slowly when tested.
6. Log and Document
   I. Photograph the aid package with visible label
   II. Record: GPS ID or SIM number; Date/time and site nickname; Package weight and type; Wind forecast screenshot

Launching a Standard Zone 3 Aid Balloon

Zone 3 launches require exact weather coordination and discretion during transport. Store completed balloons in large containers or vehicle compartments and proceed only when wind conditions are optimal.

Appropriate sites may include coastal bluffs and hillsides with Gaza-facing exposure; rural rooftops or clear beaches; secluded fields near road-accessible highlands; boats anchored 3–15 km offshore (Cyprus, Türkiye). Boat launches require stable deck space, three-person teams, and a short anchor line for control. Use foam padding to protect the balloon until it is released.

Inappropriate sites include urban environments, military or radar-sensitive zones, sites with active marine patrols.

Wind and Weather Check

Use Windy.com with altitude layers enabled.

Check:

- Set to 600–500 hPa (~9–12 km) for high-altitude drift accuracy.
- Set drift target for the Rafah corridor, where humanitarian need is greatest and interception risk is lowest.
- Wind speed must be **10–25 km/h**
- Clear skies or low clouds; no storms or extreme gusts
- Ground wind must allow for upright release

Do not launch if:

- Wind is westward or still
- Gusts exceed 35 km/h
- Thunderstorms, sea squalls, or heat advisories present
- Your team feels unsafe or threatened

Take a screenshot of your Windy reading and GPS activation confirmation. Save in your encrypted log.

Launch Procedure

Once the balloon is fully assembled, the site confirmed, and the wind verified, your launch should be clean, efficient, and quick:

1. Arrive with all materials pre-checked and packed
2. Designate a lead to call final safety checks and countdown
3. Handle the balloon by its base, keeping it upright and clear of snags
4. Conduct a final safety check, confirming the balloon is sealed, the parachute is stable, the label is secure, the GPS is activae, and the burst fuse or release mechanism is installed.
5. Conduct a final scan of the airspace (trees, wires, patrols)
6. Prepare to document the release
7. Wait for a window of open air and low gust
8. Release on cue with a short countdown (e.g., “3… 2… 1… release”).
9. Let the balloon ascend vertically before turning away.
10. Repeat steps 2-7 for all prepared balloons

The following should be documented for each release:

- Photo or video of the release (10 seconds max)
- Visible label and timestamp reference (sign, clock, paper)
- Location nickname or coordinates
- Wind direction and forecast screenshot

- Aid type (dry goods, ORS, formula, etc.)
- GPS ID

When safe to do so, upload release documentation to CDAAB@protonmail.com.

When to Postpone or Cancel Autonomous Aid Balloon Launches

It is recommended that individuals and ground teams never proceed with the launch of autonomous aid balloons if:

- They are feeling unsafe or threatened
- They are near a military zone, prison, checkpoint, or other official or sensitive location
- Wind or weather is unsuitable.
- They are emotionally unstable or seeking confrontation.
- Their launch would endanger others on site, in Gaza, or elsewhere.

Logistics and Solidarity Support

For individuals or collectives outside launch zones, it is possible to assemble and ship balloon kits directly to trusted teams acting in proximity to Gaza. This method avoids digital transactions, reduces financial surveillance, and ensures that the exact materials are used safely and lawfully.

To do this:

- Use the Type 1 or Type 2 Build Guide
- Prepare balloon, label, parachute, aid package, and if applicable, GPS unit
- Use water-tight inner packaging and a small padded container
- Coordinate shipping address and customs declaration through encrypted channels
- Never include political materials, untested electronics, or dual-use items

Coordinate directly with a ground team or contact CDAAB@protonmail.com for shipping locations.

Innovations and Inspired Actions

This manual outlines the standardized protocols and tools for autonomous humanitarian balloon delivery to Gaza. However, the ingenuity and commitment of civilians under siege, as well as those in solidarity with them, will always exceed the boundaries of any single guide. Across regions, communities have begun to explore additional low-cost, civilian-led delivery methods that may one day complement this strategy.

These include:

- Kite-based delivery systems from immediate border zones
- Wind-gliders and line-lofted devices deployed from elevated terrain
- Small boats, paddled or wind-powered, operating from civilian ports
- Foot-launched aerostats, guided briefly by tether before release
- Carrier pigeons and other trained animals

While these ideas reflect urgency, resolve, and creativity, this program does not provide technical guidance for nor explicitly condone these alternate transport methods. Their legal status, technical feasibility, and risk profiles vary significantly, and some may fall outside the boundaries of clearly protected humanitarian action under international law.

That said, we recognize the core principle behind each of these efforts: the moral imperative to deliver food and aid to civilians where governments and armed actors have failed or refused to do so.

Any initiative undertaken in this context must follow the essential conditions of protected civilian humanitarian activity:

1. Nonviolence: No weapons, no aggression, no threat
2. Impartiality: Aid must be for civilians only, without distinction
3. Neutrality: No allegiance to political or military parties
4. Independence: Action must be civilian-led and non-state affiliated
5. Transparency: All aid must be clearly labeled, documented, and accountable
6. Proportionality: The chosen method must avoid foreseeable harm

Innovations must never compromise these principles.

The CDAAB framework remains open-source, iterative, and grounded in lawful solidarity. We welcome all peaceful strategies that strengthen the collective civilian capacity to uphold the right to food. We urge all actors to prioritize safety, legality, and impact.

Messaging and Amplification Guide

All public-facing campaigns must be clearly secondary to and in support of delivering aid to besieged populations. Messaging, fundraising, and media visibility are lawful support activities—not the central purpose of this humanitarian action.

Messaging about this effort must maintain strict adherence to standards to ensure legality and safety for launching teams:

- Legal protection under IHL for both the cargo and those releasing it
- Clear distinction from military or political activity
- Public witness to famine, blockade, and civil solidarity
- Resistance to disinformation and propaganda
- Visibility that inspires replication and international accountability

All CDAAB channels are open-source and monitored for misinformation. This effort condemns any action or messaging that misrepresents its fully legal and humanitarian status. Report fake accounts and misinformation to: CDAAB@protonmail.com

This section outlines required and recommended messaging practices for both field deployments and public communications.

Communication Standards for Launch Teams

Digital Safety During Planning and Launch Phases

When planning to build and launch aid balloons, consider coordinating teams via secure services like Signal. Never livestream launches and avoid geotagging or metadata leaks from smartphones. Strip metadata from all images before uploading. Do not show faces or names in photos or videos, and do not post any identifiable information on personal social media. For anonymous teams, obscure features using masks, gloves, or back-facing angles.

Each launch is a public act of humanitarianism and must be documented appropriately to protect everyone involved. Each launch should include:

- Photo of sealed aid package with visible label before release
- Photo or 10-second video of the launch, ideally with: date/time sign or voiceover; clear shot of balloon in ascent
- Screenshot of wind forecast at time of launch (Windy.com or app)
- Log entry including date/time; aid package weight/type; launch site nickname or coordinates; balloon type (aid, decoy, test); GPS ID or fuse type (if applicable)

When safe, documentation should be uploaded to CDAAB@protonmail.com.

Aid Package Labeling Requirements

All aid packages must be labeled externally with the following text, in **Arabic and English** at minimum:

> **Civilian-Deployed Humanitarian Food Aid**
> No weapons – No surveillance – No political content.
> Delivering food aid is a human right. Blocking food aid is a war crime.
> Visit github.com/CDAAB/CDAAB for project and legal details.

Where appropriate, labels may also include Turkish, Greek, or Hebrew, depending on the launch region. Labels must be waterproofed and easily visible on the outer container.

Download labels here:
https://github.com/CDAAB/CDAAB/tree/main/Field_Resources/Aid_Package_Labels

It is critical to maintain strict humanitarian practices on any material included or affixed to the balloon and aid package. For this reason, avoid including:

- Add handwritten messages or slogans
- Religious texts, flags, or symbols
- Personalized items with drawings or notes
- Political flyers, stickers, or any materials not explicitly part of the legal framework

Even if well-intentioned, such additions can endanger recipients and render the action ineligible under humanitarian law.

Public Communication and Amplification

Once documentation is secure, teams may share launch photos and data with journalists, allied networks, and verified public channels. The messaging must focus on humanitarian needs, civilian protection, and lawful aid delivery, rather than confrontation or spectacle, to preserve the legal status of this action. Suggested channels may include:

- Encrypted group threads (Signal, Telegram, ProtonMail)
- Open-source launch archives or verification platforms
- Aligned journalist or human rights networks
- Collective accounts managed by trusted coalitions

Suggested Hashtags (if used):

- #GazaAidBalloons
- #RightToFood
- #CivilianReliefNow

Messaging is not the core of this effort, and all resources should be directed to the launch of aid balloons or actions that directly support the launch of aid balloons.

Social Media Advocacy

Individuals with digital platforms may support this initiative by sharing successes, amplifying verified documentation and legal framing, and countering misinformation through calm and principled communication. Messaging is not the core of this effort, and all resources should be directed to the launch of aid balloons or actions that directly support the launch of aid balloons.

Social media content supporting this effort should emphasize:

- Civilian protection and the legal right to deliver food aid
- The neutrality and humanitarian purpose of each launch
- Verification through field evidence, not speculation or emotional appeal

Celebrities, influencers, microinfluencers, and individuals may:

- Share approved launch photos or reports with context
- Use campaign-aligned hashtags (e.g. #GazaAidBalloons, #RightToFood, #CivilianReliefNow)
- Link directly to CDAAB resources rather than summarizing or paraphrasing legal claims
- Avoid associating CDAAB actions with unrelated protests, parties, or movements

Where possible, messaging can be coordinated via CDAAB@protonmail.com to ensure consistency, avoid risk to field teams, and preserve legal framing. Influencers are asked to respect the anonymity and safety of all active participants.

Any donations collected through these campaigns should be sent directly to implementing individuals and teams in launch zones or may be aggregated via CDAAB@protonmail.com and promptly and transparently distributed by the team centrally supporting these deployments of CDAAB.

Solidarity Balloon Campaigns

Messaging is not the core of this effort, and all resources should be directed to the launch of aid balloons or actions that directly support the launch of aid balloons. In regions outside of balloon launch zones, civilians may conduct non-launch symbolic actions to support the campaign. These include:

- Tethered balloon installations with aid labels
- Balloon vigils or public displays outside embassies or press offices
- Printed balloon replicas attached to informational handouts
- Projection art or light-based visualizations using the aid balloon symbol

These actions should not be framed as protest, but as public education and lawful humanitarian solidarity. They should replicate the CDAAB label and core message. In every case, tone and materials should emphasize:

- Civilian-led humanitarian response
- Lawful delivery of food aid
- Absence of political affiliation
- Accountability under international law

Supporters are kindly requested to refrain from actually releasing balloons for non-aid, symbolic purposes.

Where possible, messaging can be coordinated via CDAAB@protonmail.com to ensure consistency, minimize risk to field teams, and maintain a consistent legal framing. Influencers are asked to respect the anonymity and safety of all active participants.

Any donations collected through these campaigns should be sent directly to implementing individuals and teams in launch zones or may be aggregated via CDAAB@protonmail.com and promptly and transparently distributed by the team centrally supporting these deployments of CDAAB.

Media Interest

Journalists and media outlets reporting on this initiative should recognize its legal status as a civilian humanitarian action under international law. Coverage should reflect the principles outlined in the Geneva Conventions and avoid framing that may suggest armed affiliation, protest activity, or unlawful conduct.

A basic media briefing document is available upon request, containing:

- Background on the legal justification

- Sample photos and aid package labels
- Interview guidelines and contact channels
- Attribution language suitable for publication.

The publication of names, GPS locations, biometric data, or identifiable speech from civilian launchers is strictly prohibited. CDAAB spokespeople appear only in approved written statements or verified anonymized transcripts. Failure to abide these requests is condemned and may result in increased vulnerability for besieged and supporting communities.

Media requests should be coordinated via CDAAB@protonmail.com.