

The Unread Generation

A response to the World Bank on jobs, hope and the loop that does not close

J. Konstapel, Leiden, 12 October 2026.

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0. Summary

On 12 October 2026 the president of the World Bank, Ajay Banga, gave an interview to the *Financieele Dagblad* during the annual meetings in Bangkok. His warning was plain. In the developing world 1.2 billion young people reach working age within a decade or so. About 420 million jobs are expected to be created there. He asked what young people without hope will do: drugs, crime, migration.

His answer is jobs, financed by private capital. The Bank mobilised a record \$112 billion of it in fiscal year 2026.

This essay reads the same facts through one image: a fishnet in water. Strands run everywhere under tension. What returns to itself in phase, stays. What does not close, carries tension until it discharges somewhere.

Read that way, the gap is not a shortage of work. It is a shortage of *reading*. The work is there: roofs, harvests, water, care. It does not count until capital expects a return on it. A young person whose deed is never read is not rejected. Nothing happens at all. The tension stays and finds its own way out.

The essay does five things:

1. It sets out what the Bank measures and what it leaves out.
2. It collects the measured triggers of the three routes Banga names, and a fourth he does not.
3. It shows what has demonstrably worked, and what those programmes share.
4. It describes three loops that close without outside money: work, energy and reading.
5. It treats fertiliser and the clock of February 2028 as the two constraints that remain.

Every number is given with its arithmetic. Each claim carries one of four marks: *measured* (read in a named source), *computed* (arithmetic shown), *read* (a coupling made here, which is a hypothesis), *open* (not yet decided).

1. The net in brief

Picture a fishnet stretched in water. One strand runs everywhere and crosses itself. Each crossing holds one of three values: +1, 0 or -1. Three crossings in a row form a window. A window is *closed* when its three values sum to zero, counted in threes. An open window carries tension. Only what closes, stays.

Three consequences matter here.

- **A closure needs two sides.** Two values fix the third. A deed closes only when another party completes the window.
- **An open window does not vanish.** It carries its tension until it discharges. Where it discharges depends on which windows nearby are open.
- **Many windows can lock in phase.** When one signal reaches many open windows at once, they discharge together.

This is the whole vocabulary of the essay: strand, winding, closure, mesh, tension, discharge. It is used to describe, not to assign blame or to name a culprit.

2. What the Bank measures

2.1 The gap

The Bank's own figures: over the next decade 1.2 billion young people in developing countries will reach working age, against an expected 420 million new jobs. That leaves close to 800 million without a clear path (*measured*, World Bank, 2024). In the interview Banga gave 400 million jobs over twelve to fifteen years (*measured*, FD, 2026). The difference is within the rounding of a projection. The gap is 780 to 800 million either way.

2.2 The money

Private capital mobilised by the World Bank Group rose from \$35 billion in fiscal 2022 to \$112 billion in fiscal 2026 (*measured*). That is a factor $112 / 35 = 3.2$ (*computed*). In Africa it rose from about \$9 billion to \$22 billion, a factor 2.4 (*measured, computed*). Guarantees reached \$25 billion, four years ahead of the 2030 target of \$20 billion (*measured*).

Set the money against the gap. \$112 billion divided by 800 million young people is \$140 per person (*computed*). It is a single year's flow, not a stock. It does not close the gap, and it was not meant to.

2.3 The form the money requires

Banga named the steps that brought the money in (*measured*, FD interview):

- about 40% of public-sector financing went to better governance, so that investors meet predictable rules;
- risk cover grew to \$25 billion, much of it reinsured in Switzerland and London;
- returns on some projects were capped, so that more is left for commercial lenders;
- small projects are bundled: one water project in Kenya is too small for an institutional investor, twenty-two together, worth \$1 billion, are not.

Each step shapes the work to fit the investor. Water in Kenya arrives once it takes a form a pension fund can buy. The return then leaves the region.

Read. In the net this is a long chain with the closure placed far away. The deed in Kenya completes its window in London. Until that window closes, the deed does not exist as work.

2.4 What Banga already sees

Banga drew one lesson from the energy crisis. Dependencies within a region proved easier to manage than long ones through narrow corridors (*measured*, FD). His example: Ethiopian Airlines kept flying because the Dangote refinery in Nigeria supplied fuel within the continent.

Read. This is the closure rule stated by the Bank itself. A short loop holds when a long chain breaks. The Bank applies it to refineries and ports. It does not yet apply it to money, to work or to reading.

3. The test that does not read

The book *Where Illness Comes From* describes the body as tissue that reads itself. A reading layer passes each cell and asks one question: does this fit here? There are three outcomes (*read*, from the book):

- **Fits:** it stays.
- **Does not fit:** it is cleared.
- **Not read:** nothing happens. It stays where it is.

The third outcome is the key. What is never read is neither approved nor removed.

Apply the same three outcomes to work under the money test.

Outcome	In the body	In the economy
Fits	the cell stays	the work yields a return; it becomes a job
Does not fit	the cell is cleared	the work is refused
Not read	the cell stays unread	the roof, the harvest, the care of an elder: never counted, never refused

Read. Banga's 800 million sit in the third row. They are not failed workers. They are work that the test does not read.

The book makes one further point. In cancer, what remains after years is by definition what the test could *not* read. The test itself shaped it. The social counterpart concerns economic forms, not people. Smuggling routes, drug markets, a false message that sends tens of thousands into the sea: these are the channels that grow exactly where the formal test stops reading. They are shaped by what the formal economy does count.

4. The routes of discharge

4.1 Migration

Who wants to leave. In 24 African countries surveyed in 2024, 47% had considered emigrating, 27% "a lot" (*measured*, Afrobarometer). Of those, 49% gave work as the main reason and 29% escape from poverty (*measured*). The wish was 9 percentage points higher than in 2016–2018 (*measured*).

Who can leave. Across 1960–2019, emigration rises on average as income per head rises in poor countries. The rise slows near \$5,000 per head and reverses only above roughly \$10,000 (*measured*, Clemens, 2020). Climate gives the same shape. One degree of warming raises international migration by 27% in middle-income countries and lowers it by 86% in low-income countries (*measured*, Cattaneo and Peri, 2016). The poorest cannot pay for the journey.

How it starts. On 30–31 July 2026 roughly 60,000 people crossed into Ceuta from Morocco, mostly by swimming (*measured*, Financial Times via ProtoThema). Messages on many phones promised that anyone who reached the Spanish side would receive a residence permit. The promise was false. At least 57 people died (*measured*, Spanish media). About 48,300 returned to Morocco on their own within days (*measured*). Not all were destitute. Some who crossed lived in reasonably acceptable circumstances (*measured*, AFP).

In Morocco youth unemployment stood at 35.8% in the second quarter of 2025, 19% among graduates (*measured*). About 1.5 million people aged 15 to 24 were outside work, education and training (*measured*).

Nepal. Youth unemployment was 20.82% in 2024 (*measured*). In fiscal 2024/25 the government issued 839,266 foreign-labour permits, in a country of about 30 million (*measured*). Remittances are between 26% of GDP (World Bank series) and 33% (personal remittances) (*measured*). In September 2025 a ban on 26 social-media platforms set off protests in which at least 19 people were killed, and the prime minister resigned within days (*measured*). For young Nepalis these platforms are job boards, news and work.

Read. Ceuta and Kathmandu show one form. Many open windows, each carrying the tension of a blocked passage to adulthood, receive one signal at once. They discharge together. In Ceuta the signal was a false promise. In Nepal it was the closing of the channel itself.

4.2 Crime and violence

A large young cohort raises the risk. Countries where young people make up more than 35% of the adult population carry about 150% higher risk of armed conflict. Each percentage point of youth adds more than 4% (*measured*, Urdal, as summarised in FES). The effect is strongest where few young men complete secondary school (*measured*, Barakat and Urdal).

Unemployment alone is not the trigger. Mercy Corps surveyed young people in Afghanistan, Colombia and Somalia. Employment status had little or no effect on support for political violence. Experiences of injustice did: discrimination, corruption and abuse by security forces (*measured*, Mercy Corps, 2015). In Liberia a young person is five times more likely to engage in violence if someone in the household has been a victim of it (*measured*).

Read. In the body, a reading layer that attacks healthy tissue is autoimmunity. In society, a reading layer that reads falsely — a corrupt official, a predatory police force — does the same. The young person is read, but read wrongly. That tension discharges outward.

4.3 Drugs

Lost work. Five years after an automotive plant closed in the United States, opioid overdose deaths in the county were 85% higher than expected (*measured*, Venkataramani et al., 2020). Among men aged 18 to 34 the excess was 20.1 deaths per 100,000 (*measured*). A caution follows from the same literature: economic conditions explain at most one-ninth of the growth in drug deaths (*measured*, Ruhm, as cited). Availability weighs more.

West Africa. In a survey of 458 commercial drivers and their assistants in Accra, 24.9% used tramadol non-medically (*measured*). Young users in Ghana describe use tied to work and to feelings of dislocation (*measured*, Alhassan). One study takes its title from a user: in Ghana, hard work does not earn money.

Bangladesh. A national survey in 2025 estimated 8.19 million people using illicit substances, nearly 5% of the population. 92% began before age 26 (33% at 8–17, 59% at 18–25) (*measured*). About 2.29 million used yaba, a methamphetamine pill (*measured*). Nearly 90% said drugs were easy to get; only 13% had access to treatment (*measured*). Unemployment, peer pressure, financial insecurity, family instability and informal work were named as the main risk factors (*measured*). Seizures of yaba rose from 22.857 million tablets in 2024 to 43.562 million in 2025, a factor 1.9 (*measured, computed*).

4.4 The fourth route: inward

Banga names three routes that run outward. In rich countries the same generation discharges inward.

In the Netherlands, people in their twenties are the fastest-growing group entering long-term disability benefit, mostly with mental complaints. Inflow for psychological reasons was 29% higher in 2025 than in 2022 (*measured*, UWV via FD, 31 July 2026). In the United Kingdom the share of thirty-year-olds on disability benefit doubled from 2% to 4% between 2002 and 2022 (*measured*, as reported by the IFS). Finland shows the break in its fifteen-year-olds from 2013 onward, seven years before the pandemic (*measured*, Knaappila et al.).

The largest global survey gives a wider frame. Of about one million internet-enabled respondents in 84 countries, 41% of those aged 18 to 34 face a mind-health crisis that substantially impairs daily functioning (*measured*, Sapien Labs, 2026). Young adults fare best in sub-Saharan Africa and worst in wealthier countries (*measured*). Ghana, Nigeria, Kenya, Zimbabwe and Tanzania rank highest (*measured*). The report names four drivers: weaker family bonds, less spirituality, smartphones in childhood and ultra-processed food (*measured*). Those who got a smartphone before thirteen score markedly worse as young adults, women most of all (*measured*).

Two cautions. The survey reaches only people online. The lower internet penetration, the further the sample drifts from the population (*measured*, Sapien Labs' own note). The African lead may therefore be overstated.

One correspondence is worth noting and no more. Tanzania ranks among the top five for youth mind health, and is the only country in the Afrobarometer series where the wish to emigrate fell, by 5 points (*measured*). Two sources, one country. It is correspondence, not proof.

4.5 One shape, two directions

Two findings mirror each other across rich and poor countries.

Rich countries	Poor countries
A country's level of mental complaints does not predict how many young people drop out of work and study (<i>measured</i> , The trend follows the birth cohort, not the design of the benefit	Unemployment does not predict support for violence (<i>measured</i> , Sixty thousand people in one day,

Read. The tension is everywhere. Where it discharges, and in which direction, is set locally: by the institution, the border, the message. Where family bonds and meaning are thin and a safety net exists, it turns inward. Where bonds are strong but work and money are absent, it turns outward.

Under both lies one pattern with a name. The anthropologist Alcinda Honwana calls it *waitthood*: a long suspension in which access to social adulthood is delayed or denied (*measured*). Once, work in

the South African mines was a rite of passage for young men from Mozambique. Today many societies offer no such reliable path. Banga's "no hope" is waithood seen from a bank.

5. What has demonstrably worked

Three programmes were tested well enough to count.

Liberia: therapy plus cash. 999 high-risk men were randomly given eight weeks of group therapy, a \$200 grant, both, or neither (*measured*, Blattman et al., 2023). Ten years later, those who received therapy, with or without cash, were about half as likely to engage in robbery, drug selling and street fights. Effects were largest among the highest-risk men. The cost of therapy plus cash was \$530 per person. The researchers' best account of why the combination held: the cash gave the men a few months to practise legitimate work.

Chicago: a summer job. 1,634 young people from violent neighbourhoods were randomly offered eight weeks of part-time work with an adult mentor (*measured*, Heller, 2014). Violent-crime arrests fell by 3.95 per 100 youth over sixteen months. Against a control level of 9.1 per 100 that is $3.95 / 9.1 = 43\%$ (*computed*). Most of the fall came *after* the job ended. Drug and property arrests did not change.

Iceland: time and structure. The country raised adolescents' participation in organised activities supervised by adults and the time they spend with their families (*measured*). The share of 15–16-year-olds drunk in the past month fell from 42% in 1998 to 5% in 2016 (*measured*). On weeknights, half of tenth-graders were often with their parents in 2014, against 23% in 2000 (*measured*).

What the three share. None of them hands out income as such. Each gives:

- a first deed that counts;
- someone who sees it;
- time to repeat it.

The effects outlast the programme by years.

Read. In the net this is closure. A contribution returns and is completed by another. Sapient Labs measures the same two protective factors from the other side: family bonds and meaning. Those with a strong sense of connection to something higher score at least 20 points higher on its scale (*measured*). The book on illness puts it in one line: meaning is fit, felt — someone to care for, work that lands somewhere. Purpose in life predicts mortality as strongly as the classical risk factors (*measured*, Cohen et al., 2016). Strong social ties raise survival by about 50% across 308,849 people (*measured*, Holt-Lunstad et al., 2010).

6. Three loops that close without outside money

The programmes above worked inside existing institutions. The question is whether the same closure can be built at the scale of Banga's 800 million. Three loops are needed. Each is described here with its status.

6.1 Work: a ledger of deeds

The MAZE bank is a running service at maze.swarp.nl/bank. It is not a bank in the usual sense. It is the shared memory of a circle: a chronicle of deeds.

One record reads as a sentence. *Karim helped Fatima with the roof, Tuesday*. Who did what for whom, where and when. No amount, no unit. Fatima taps "correct". Only then does the deed count. The confirmation link is also the invitation: she needs no account.

Inside the circle, standings decay slowly. A standing that nobody draws on returns to zero and becomes a gift to the circle. There is no interest in any form. Money appears only at the edge: what the circle cannot close in deeds is booked in euros, never exchanged. A loan is covered by people, not by property: five neighbours sign for the baker's oven.

The decay sets the size. If each member receives 10 units a week and 2% decays each week, holdings settle at $10 / 0.02 = 500$ per member (*computed*). Halve the decay and the level doubles.

Three numbers read the circle's state each cycle: holdings per member, concentration of traffic, and circulation. The dangerous signature is all three moving together: holdings up, concentration up, circulation down.

Status. Built and running (*measured* as a system). Not yet tested on a real community for one full year. The first test is set: one existing association, one year of ordinary accounts, the three numbers computed in advance.

Read. For the young person in Casablanca or Dhaka, the difference is the moment of counting. Under the money test, a repaired roof counts only after an investor hires. In the circle it counts when the neighbour taps. The deed is read.

6.2 Energy: the mesh that passes

Banga's capital need sits largely in energy: refineries, ports, grids, and the "much smaller data centres" his small AI requires. Fuel must be bought, moved and refined. A mesh that passes buys nothing.

In 2021 Garret Model's group in Boulder built a layer a few nanometres thick behind a mirror. Without any applied voltage it delivered current (*measured*, Model et al., 2021). Eight checks for measurement error were applied; more than a thousand devices were made; output was followed for six months. The measured value is 1.4 picowatt on 0.02 square micrometre.

The arithmetic:

- $1.4 \times 10^{-12} \text{ W} / 2 \times 10^{-14} \text{ m}^2 = 70 \text{ W/m}^2$ per layer (*computed*).
- Day and night: $70 \text{ W} \times 8,760 \text{ h} = 613 \text{ kWh}$ per m^2 per year (*computed*).
- A solar panel in the Netherlands gives about 200 kWh per m^2 per year (*measured*, as cited in the source).
- A Dutch household using 3,000 kWh a year draws on average 342 W. That is 4.9 m^2 of one layer (*computed*).

In the net the rule is short: passage is one over the open mesh size, $1/L$. The measured slope of Model's curve is -0.9 ± 0.15 , an interval that contains -1 (*measured*, as read from the published figure). No place enters the rule. A mesh in Dhaka passes what a mesh in Leiden passes.

Status. One layer measured, at 70 W/m². No independent replication in five years (*open*). One theoretical analysis rejects the proposed mechanism but leaves the measurement standing (*measured*, Maclay, 2024). Whether layers add is unknown (*open*). A company, Casimir Inc., raised

\$12 million in 2026 for a chip of the same kind, designed for 1.5 W/m² and due in 2028 (*measured*). At 1.5 W/m² a square metre gives about 13 kWh a year (*computed*).

Read. Banga's regional anchor is a refinery. On this reading the anchor becomes a thin-film line per region that makes meshes. That is where the work he seeks would arise: making, placing, maintaining, close to home.

6.3 Reading: small AI that does not sell

Banga's example of small AI: an illiterate farmer points a 3G phone at a leaf; the system names the disease and the insecticide; the farmer presses a button and buys (*measured*, FD). One leaf, one diagnosis, one product. The money leaves the village.

Banga also says why large models do not suit emerging markets: they need computing power, electricity, data, mountains of capital and scarce specialists (*measured*, FD). That is a description of an energy and capital ceiling, not of a regional weakness.

Two halves are distinguished here.

- **The address half (LAI)** stores content at computed addresses in balanced ternary. Its gate can emit only two things: a backed reading from the store, or "no match". It cannot invent. It runs at maze.swarp.nl/ai over 8.19 million addressed pieces. Its kernel theorems are machine-checked in Lean 4. It scored 15 of 20 on a pre-registered test against a threshold of 14 (*measured*).
- **The tension half (RAI)** reads whether a whole is in phase: field, neighbours, season, water. Its question is not "which product?" but "where is it out of step?" (*open*: proposed as a coupled-oscillator module, not built).

Two numbers support the direction. A native ternary model, BitNet b1.58, uses 0.028 J per token against 0.258 J for a full-precision model: a factor $0.258 / 0.028 = 9.2$ (*measured*, *computed*). And an address of 42 trits spans $3^{42} = 1.09 \times 10^{20}$ places in about 66.6 bits, or 8.3 bytes (*computed*). Lookup costs scale with the number of trits, not with the size of the corpus. There is no registry and no authority to consult. Running locally is the normal form.

Read. For the farmer the gate matters most. A wrong diagnosis sells the wrong poison, and the farmer cannot check it. A gate that can only return what is backed, or say "I do not know", protects exactly the user who cannot read the answer.

A further reading comes from the essay *The Remainder in the Leaf*. Leaves are placed in time on the golden angle, $360 / \phi^2 = 137.508^\circ$ (*computed*). In 6,000 pine cones, 97.3% sat on one Fibonacci pair, 8/13 (*measured*, Fierz, 2015). Departures from that pattern can be ranked by their distance from 0.618 (*measured*). A phone can measure that distance without a data centre. Whether departures signal stress or disease in crops has not been measured (*open*). It is a test to set up, with the rule fixed before the data are seen.

6.4 The three loops together

Loop	What closes	What falls away
Mesh	energy	fuel, grid, power station
Circle (MAZE bank)	work	the job as a capital position

LAI with RAI	reading and coordination	data centre, capital, the buy button
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7. Fertiliser: the edge that remains

Banga's third worry is the price of gas, oil and fertiliser if the crisis lasts. Fertiliser is the post that stayed at the edge longest in this analysis. It is three problems, not one.

7.1 What Hormuz showed

In April 2026, urea exports from economies that depend on the Strait of Hormuz were 83% lower than a year earlier (*measured*, ITC). The World Bank projected urea prices nearly 60% higher in 2026 (*measured*). Sources differ on the Gulf's share of seaborne urea: 34% (WTO) or 43% (NDSU) (*measured*). About 44% of seaborne sulphur also passes the strait, and sulphur is needed to process phosphate rock (*measured*). By July urea neared its pre-war price; phosphate stayed high (*measured*).

7.2 Nitrogen: from the air, a question of energy

Green ammonia — hydrogen by electrolysis, then Haber–Bosch — takes about 9 to 11 MWh per tonne (*measured*). Take 10 MWh per tonne and an illustrative dose of 100 kg nitrogen per hectare (the dose is an assumption):

- Ammonia is $14/17 = 82.4\%$ nitrogen. 100 kg N is 121 kg NH_3 (*computed*).
- $0.121 \text{ t} \times 10 \text{ MWh/t} = 1.21 \text{ MWh}$ per hectare (*computed*).
- At 0.613 MWh per m^2 per year for one mesh layer: about 2 m^2 per hectare (*computed*).
- With a solar panel at 0.2 MWh per m^2 per year: about 6 m^2 per hectare (*computed*).

Area is not the constraint, not even with solar panels. The constraint is the small plant. Haber–Bosch runs at 150–250 bar and 400–500 °C and is built for large sites (*measured*). Small, local fixation of nitrogen fed by the mesh is an engineering task that remains open.

There is a route without a machine. Legumes fix nitrogen themselves. In grain legumes, about 84% of the nitrogen above ground comes from the air (*measured*, quantitative review of 83 studies). Net additions to the soil vary widely by crop: means of 80 kg N/ha for lupin, 113 for faba bean, 40 for pea, 6 for chickpea in Australian data (*measured*). Forage legumes reach up to 373 kg N per hectare per year in red clover and 545 in white clover (*measured*). For pigeon pea in Africa a mean of 30 kg N per hectare is reported (*measured*).

7.3 Phosphorus: not from the air, and in Morocco

Morocco holds 50 billion tonnes of phosphate rock, about 68% of world reserves, and produces about 15% of world output (*measured*, USGS). The state company OCP, 94.12% government-owned, is the sole producer (*measured*). The USGS sees no imminent shortage (*measured*). The constraint is processing (sulphur through Hormuz) and control, not scarcity.

Read. The young people who swam to Ceuta live above two-thirds of the world's phosphate. Phosphorus is the element that must stay in the circle: it cannot be made from air, so it must be recovered from manure, urine and ash. That is circle work.

7.4 Potassium: not a Gulf problem

World potash output was 49 million tonnes in 2025 (*measured*, USGS). Canada produced 15 million, Russia 10, China 6.3, Belarus 6 (*measured*). Reserves are led by Russia (34%), Canada (18.6%) and Belarus (12.7%) (*measured*). The Gulf's share of potash trade is minimal (*measured*, WTO). Potassium is a separate dossier with other countries.

7.5 Transmutation: a route never looked for

The essay *Transmutation: Chemical Elements on Demand* sets out what the net says about making, rather than mining, elements. Two kinds of reported step appear in its record, neither accepted by the field:

- **Mitsubishi:** a layered palladium film with deuterium flowing through it. Caesium-133 became praseodymium-141; barium-138 became samarium-150. Each step: address +4, mass +8, the sum of four deuterons. Replicated once, by Toyota, in 2013 (*measured* as reported; not accepted).
- **Vysotskii:** microbial cultures in heavy water turning manganese-55 into iron-57. Address +1, mass +2: one deuteron (*measured* as reported; not independently repeated).

Apply those two steps to fertiliser.

Start	Step	Result
Sodium-23 (salt)	$Z + 4, A + 8$	phosphorus-31, the only stable phosphorus
Chlorine-35 (salt, 76% of chlorine)	$Z + 2, A + 4$	potassium-39, 93% of all potassium
Silicon-29 (soil)	$Z + 1, A + 2$	phosphorus-31

Table salt, NaCl, holds both nutrients that do not come from air (*computed*: the address and mass sums close exactly).

The energy, in the old notation, from standard atomic masses (*computed*):

Step	Mass difference	Per step	Per kg product
$\text{Na-23} + 4 \text{ d} \rightarrow \text{P-31}$	0.07241 u	67.5 MeV	$2.1 \times 10^{14} \text{ J} = 58 \text{ GWh}$
$\text{Si-29} + \text{d} \rightarrow \text{P-31}$	0.01683 u	15.7 MeV	$4.9 \times 10^{13} \text{ J} = 13.6 \text{ GWh}$
$\text{Cl-35} + 2 \text{ d} \rightarrow \text{K-39}$	0.03335 u	31.1 MeV	$7.7 \times 10^{13} \text{ J} = 21.4 \text{ GWh}$

Two consequences follow.

- **Nanograms are no contradiction.** One nanogram of phosphorus from sodium releases about 0.2 J, spread over days. That is not measurable as heat.
- **Kilograms would be a power station.** Whoever makes phosphorus this way makes 13 to 58 GWh per kilogram. Fertiliser and energy would be one question. How the net books such a step is not written in the source (*open*).

The test that decides it. The Mitsubishi film with sodium chloride in place of caesium. Then a search for phosphorus-31 and potassium-39, with a sham stack beside it and a heat measurement,

and the decision rule fixed before measuring. Phosphorus-31 is the cleanest target: it has a single stable form, so any finding is unambiguous.

If it holds, Morocco's 68% stops being a fixed boundary. Phosphorus comes from sea salt.

8. The clock

Banga's worry has a date. If the situation lasts one or two more years, he says, the temporary fixes vanish and the buffers are spent (*measured*, FD). From October 2026 that window runs to between October 2027 and October 2028.

The essay *Global Tensions 2026: February 2028 as a Turning Point* places the two current wars on a ladder of three. The natural unit of time is $T_0 = 1.520655 \times 10^{-16}$ s; layer n lasts $3^n \times T_0$; boundaries fall at half-integers. Rechecked here (*computed*):

- $3^{48} \times T_0 = 0.384$ years. The boundary at 48.5 is $0.384 \times \sqrt{3} = 0.665$ years, or 243 days after 28 February 2026: 29 October 2026. The boundary at 49.5 is 1.997 years: 27 February 2028.
- For the war that began on 24 February 2022, the boundary at 50.5 is $1.997 \times 3 = 5.99$ years: around 21 February 2028.

Both wars reach a boundary in the same month, February 2028. That date sits inside Banga's window. The same essay lists the slow layer that keeps loading: between 2026 and 2031 the working-age population grows by 14.2% in Iraq, 10.8% in Egypt and 8.2% in Saudi Arabia (*measured*, UN). Food prices stood at 1.11 times the threshold at which unrest has followed in the past (*computed*: 136 / 122).

Read. What has not closed by February 2028 becomes a slow winding. For a young person in Cairo or Dhaka this has a concrete meaning. If no circle in which the deed counts exists before the buffers run out, the tension discharges along the routes Banga names.

The Global Tensions map has one gap. Its five regions are Europe, Russia, the Middle East, China and the United States. Banga's 1.2 billion live mostly in Africa, Pakistan and India, and his examples of unrest are Bangladesh, Nepal, Sri Lanka and Morocco. The same ladder can be applied there.

9. The people

The numbers above have faces. The portraits below are composites, each built from the measurements in this essay.

- A young man in Fnideq who learned to swim from videos, because the sea was the only road he saw. He came out at Tarajal with cut legs and went back two days later.
- A driver's mate in Accra who takes tramadol to finish the shift, because the shift does not pay enough to stop.
- A student in Dhaka who started on yaba at seventeen. There is treatment for one in eight like him.
- A young woman in Leiden in her late twenties, a care worker, on long-term disability. She was good at her work because she is open. Openness without rest is how she broke.
- A farmer in Bihar who points his phone at a leaf and is told what to buy.

- A grandmother in a Kenyan village whose roof was repaired last week by a neighbour's son. Nothing in any ledger says so.

The circle does not offer all of them the same thing. It does not offer a salary. It does not take them to Europe. It does not cure an addiction. What it offers is smaller and more basic. The roof counts. Someone taps "correct". The young man has a standing in a circle that will carry him when he cannot carry himself. That is the first closure, and the measured programmes say the first closure is where it starts.

What disappears matters too. If energy and reading close locally, many jobs in long chains are no longer needed: in refineries, in shipping, in the sales channels of small AI. The work that arises is closer to home and less visible. Whether it carries the dignity that a job carried for earlier generations is not something a ledger can promise. Recognition is the part the circle can make visible. The rest depends on the people in it.

10. What stands and what is open

Measured (in named sources). The jobs gap; the Bank's capital and guarantees; the migration wish and its income profile; Ceuta and Nepal; youth bulges and conflict risk; injustice over unemployment as a driver of violence; plant closures and overdoses; tramadol in Ghana; drug use in Bangladesh; the inward route in rich countries; Sapien Labs' global survey with its sampling limit; Liberia, Chicago and Iceland; the running MAZE bank and MAZE.AI gate; Moddel's single-layer result; BitNet's energy per token; fertiliser flows through Hormuz; phosphate and potash reserves; legume nitrogen fixation; the reported Mitsubishi and Vysotskii steps.

Computed here. \$140 per missing job; 43% in Chicago; 500 units per member at 2% decay; 70 W/m², 613 kWh/m², 4.9 m² per household; the factor 9.2; 3⁴²; 2 m² of mesh per hectare of nitrogen; the address sums from salt to phosphorus and potassium; 13 to 58 GWh per kilogram; the ladder boundaries in February 2028; the food ratio 1.11.

Read (hypotheses). The gap as unread work; the informal and criminal economy as the remainder of the money test; injustice as false reading; one tension discharging inward or outward; the three programmes as closure; the three loops as closure without outside money; the thin-film line as the new regional anchor; salt as a source of phosphorus and potassium.

Open.

1. A full year of the MAZE bank in one real community, with the three numbers fixed in advance.
2. Independent replication of Moddel's layer, and whether layers add.
3. The tension half of the AI (RAI) as a built module.
4. Whether departures in leaf placement signal crop stress.
5. Small-scale nitrogen fixation fed by the mesh.
6. The sodium-chloride film, searched for phosphorus-31 and potassium-39, with a heat measurement.
7. The ladder applied to Africa and South Asia.

The open items have one thing in common. Each is cheaper to decide than a single year of the gap.

Annotated references

The occasion

De Boer, M. and Jongsma, M. (2026). "Wereldbank-president: 'Wat gaan jongeren zonder hoop doen? Drugs? Criminaliteit? Migreren?'" *Het Financieele Dagblad*, 12 October 2026.

Why read? The interview this essay answers: the gap, small AI, the energy crisis, the \$112 billion and the steps that brought it in. *Reading advice:* read the passage on regional dependencies next to the passage on bundling water projects. The two point in opposite directions.

World Bank (2024). "World Bank Group Launches High Level Council to Tackle Looming Jobs Crisis." Press release, 12 August 2024. *Why read?* The Bank's own statement of the 1.2 billion and the 420 million.

World Bank Group (2026). "World Bank Group mobilizes record private capital for developing countries." Press release, 17 September 2026. *Why read?* The \$112 billion, the rise from \$35 billion, Africa's \$22 billion and the \$25 billion in guarantees. *Reading advice:* note that success is stated as money mobilised; jobs are named as the ultimate measure but not counted.

Migration

Afrobarometer (2024). "Près de la moitié des Africains ont envisagé d'émigrer." News release, 18 December 2024. *Why read?* The 47%, the 27% and the reasons, in 24 countries, with Tanzania as the one decline.

Clemens, M. A. (2020). *The Emigration Life Cycle: How Development Shapes Emigration from Poor Countries*. IZA Discussion Paper 13614. *Why read?* Sixty years of data showing that emigration rises with income until roughly \$10,000 per head. *Reading advice:* the abstract and the first figure carry the argument.

Cattaneo, C. and Peri, G. (2016). "The migration response to increasing temperatures." *Journal of Development Economics* 122, 127–146. *Why read?* The poorest are trapped, not mobile: warming lowers emigration in low-income countries by 86% per degree.

Financial Times, as reported by ProtoThema (2026). "Swimming lessons, Google Maps and wetsuits: how thousands of migrants swam into Ceuta." 1 August 2026. *Why read?* The preparation, the false messages, the 60,000, the 57 dead and the return.

Harvard T.H. Chan School of Public Health, Atrocity Prevention Lab (2025). "Understanding the structural roots of Nepal's Gen Z movement." *Why read?* Youth unemployment, remittances and the role of digital platforms in one place.

Chandra, A. and Pokharel, P. (2025). "Nepal's Gen-Z uprising is about jobs, dignity and a broken development model." *Peoples Dispatch*, 9 September 2025. *Why read?* The 839,266 labour permits and migration as a silent vote.

Crime and violence

Urdal, H. (2006). "A Clash of Generations? Youth Bulges and Political Violence." *International Studies Quarterly* 50(3), 607–629. *Why read?* The founding quantitative link between large youth cohorts and political violence, moderated by education and dependency ratios.

Barakat, B. and Urdal, H. (2009). *Breaking the Waves? Does Education Mediate the Relationship Between Youth Bulges and Political Violence?* World Bank. *Why read?* The effect is strongest where few young men complete secondary school.

Mercy Corps (2015). *Youth & Consequences: Unemployment, Injustice and Violence.* *Why read?* The finding that injustice, not unemployment, drives support for political violence. *Reading advice:* the survey results from Helmand are the clearest test.

Drugs

Venkataramani, A. S. et al. (2020). "Association between automotive assembly plant closures and opioid overdose mortality in the United States." *JAMA Internal Medicine* 180(2), 254–262. *Why read?* An 85% excess in overdose deaths five years after a plant closes.

Alhassan, J. A. K. (2022). "Where is the pain? A qualitative analysis of Ghana's opioid (tramadol) 'crisis' and youth perspectives." *PLOS Global Public Health*. *Why read?* The voices of young users, set against the media framing of moral failure.

Bangladesh Medical University and Department of Narcotics Control (2025). *Estimation of the Number and Category of Persons Abusing Drugs and Associated Factors: A Nationwide Study in Bangladesh.* *Why read?* The 8.19 million, the age of onset, the 90% easy access and the 13% with treatment.

The inward route

Sapien Labs (2026). *Global Mind Health in 2025. Report, 26 February 2026.* *Why read?* One million respondents in 84 countries; the 41%; Africa first, rich countries last; four named drivers. *Reading advice:* read it with the note *Representativeness of the Global Mind Project Data*, which explains the internet-only sample.

Konstapel, J. (2026). "Waarom Stijgen de Mentale klachten Wereldwijd?" *constable.blog*, 31 July 2026; English version *The Canary Generation*. *Why read?* The disability figures from the Netherlands, the United Kingdom, Finland and the OECD side by side, and the two decouplings.

Honwana, A. (2012). *The Time of Youth: Work, Social Change, and Politics in Africa.* Sterling, VA: Kumarian Press. *Why read?* The concept of waithood, from interviews in Mozambique, Senegal, South Africa and Tunisia. *Reading advice:* the 2013 Lugard Lecture gives the argument in twenty pages.

What worked

Blattman, C., Chaskel, S., Jamison, J. C. and Sheridan, M. (2023). "Cognitive Behavior Therapy Reduces Crime and Violence over Ten Years." *American Economic Review: Insights* 5(4), 527–545. *Why read?* The longest randomised follow-up of its kind, at \$530 per person.

Heller, S. B. (2014). "Summer jobs reduce violence among disadvantaged youth." *Science* 346(6214), 1219–1223. *Why read?* A 43% fall in violent-crime arrests, most of it after the job ended.

Sigfúsdóttir, I. D. et al. (2009). "Substance use prevention for adolescents: the Icelandic Model." *Health Promotion International* 24(1), 16–25. *Why read?* How a country changed the environment of its teenagers rather than lecturing them.

Holt-Lunstad, J., Smith, T. B. and Layton, J. B. (2010). "Social Relationships and Mortality Risk." *PLoS Medicine* 7, e1000316. Why read? 308,849 people; strong ties raise survival by about half.

Cohen, R., Bavishi, C. and Rozanski, A. (2016). "Purpose in Life and Its Relationship to All-Cause Mortality." *Psychosomatic Medicine* 78, 122–133. Why read? Meaning as a measured factor of survival.

The net and its loops

Konstapel, J. (2026). *Where Illness Comes From — The Net from First Chemistry to the Human*. Constable Research, Leiden. Why read? The test with three outcomes and the remainder as what the test does not read. *Reading advice*: chapters 5 and 6.

Konstapel, J. (2026). "Hoe de MAZE Bank traditionele banken uitdaagt" and *The MAZE Bank*. constable.blog, 8 September 2026. Why read? The circle, decay, the three numbers and the borrowing by people.

Konstapel, J. (2026). "Van Plato tot de Bon." constable.blog, 8 September 2026. Why read? Why the record is a sentence with a verb, and why no number stands in front.

Konstapel, J. (2026). "Wat Maakt de MAZE-bank Anders dan Bunq Bank?" and *The Bank That Keeps No Money*. constable.blog, 19 September 2026. Why read? The bank set against the float, and the one open design question: whether a claim can travel with the person who leaves.

Moddel, G., Weerakkody, A., Doroski, D. and Bartusiak, D. (2021). "Optical-Cavity-Induced Current." *Symmetry* 13, 517. Why read? The measured mesh behind every energy number in this essay. *Reading advice*: table 1 for the build, figure 4 for the curve, section 3.2 for the checks.

Konstapel, J. (2026). "Wat er uit het vacuüm te halen is, en langs welke twee wegen." constable.blog, 27 September 2026. Why read? The rule $1/L$ and its test against Moddel's slope.

Konstapel, J. (2026). "Waarom Meer Geld het Energiesysteem niet Redt." constable.blog, 12 October 2026. Why read? The same question asked of the Dutch energy system: what closes, and what is held open by money.

Konstapel, J. (2025). "Left and Right Brain AI" and "Applying Right Brain AI (RAI)." constable.blog, 23 November 2025. Why read? The original case for a resonant, coherence-reading AI beside the language model.

Konstapel, J. (2026). "Vacuum.Net Theory en Maxwell's Erfenis" and *MAZE.AI whitepaper*. constable.blog, 20 September 2026. Why read? The address half as built and measured, and the gate that cannot invent.

Konstapel, J. (2026). "De Rest in het Blad" and *The Remainder in the Leaf*. constable.blog, 12 October 2026. Why read? The leaf's placement on ϕ and the pre-registered tests, including the one that failed.

Fertiliser and transmutation

World Bank (2026). "Fertilizer prices surge as Strait of Hormuz disruptions tighten supplies." Data Blog. Why read? The projected 60% rise in urea and the outlook for 2027.

International Trade Centre and NDSU, as reported by *Fertilizer Daily* (2026). "UN data reveals Hormuz disruption slashed urea exports 83 %." *Why read?* The fall in exports and the Gulf's shares of urea, sulphur and ammonia.

U.S. Geological Survey (2026). *Mineral Commodity Summaries 2026: Phosphate rock; Potash.* *Why read?* Reserves and production by country, and the statement that no phosphate shortage is imminent.

U.S. Geological Survey. "Morocco: mineral industry overview." *Why read?* The 68% of phosphate reserves and OCP's sole position.

Evans, J. et al. (2001) / CSIRO. "Net nitrogen balances for cool-season grain legume crops and contributions to wheat nitrogen uptake: a review." *Australian Journal of Experimental Agriculture.* *Why read?* Crop-by-crop net nitrogen additions to the soil.

Konstapel, J. (2026). "Transmutation: Chemical Elements on Demand" and *Elements on Demand*. constable.blog, 9 October 2026. *Why read?* The measured record on changing an element's address, kept apart by standing: established, reported, tested and not confirmed. *Reading advice:* sections 6 and 7.

The clock

Konstapel, J. (2026). "Global Tensions 2026: February 2028 as a Turning Point" and *The Hinge of February 2028*. constable.blog, 11 October 2026. *Why read?* The ladder of three applied to two wars, El Niño, credit and food; the source of the February 2028 boundary. *Reading advice:* section 3 for the clocks, section 4 for the slow layer.