"We appreciate what you're doing for us…
but could you please work together?"

- *a question from a Bangladeshi girl, UNFPA field visit, 2020*

Using Blockchain
for Women and Girls
in Bangladesh

Lessons Learned and
A Roadmap
April 2023

She's right.

In Bangladesh, and in many contexts, United Nations Population Fund (UNFPA) distributes dignity kits to women and girls at one place and time…while other United Nations (UN) agencies distribute different types of aid to the same people separately, at another place and time.

Not only does this girl, and many others, have to travel long distances multiple times – time that could be spent on school or at home – but it also raises gender-based violence risks, unexpected travel expense– and is simply inefficient programming.
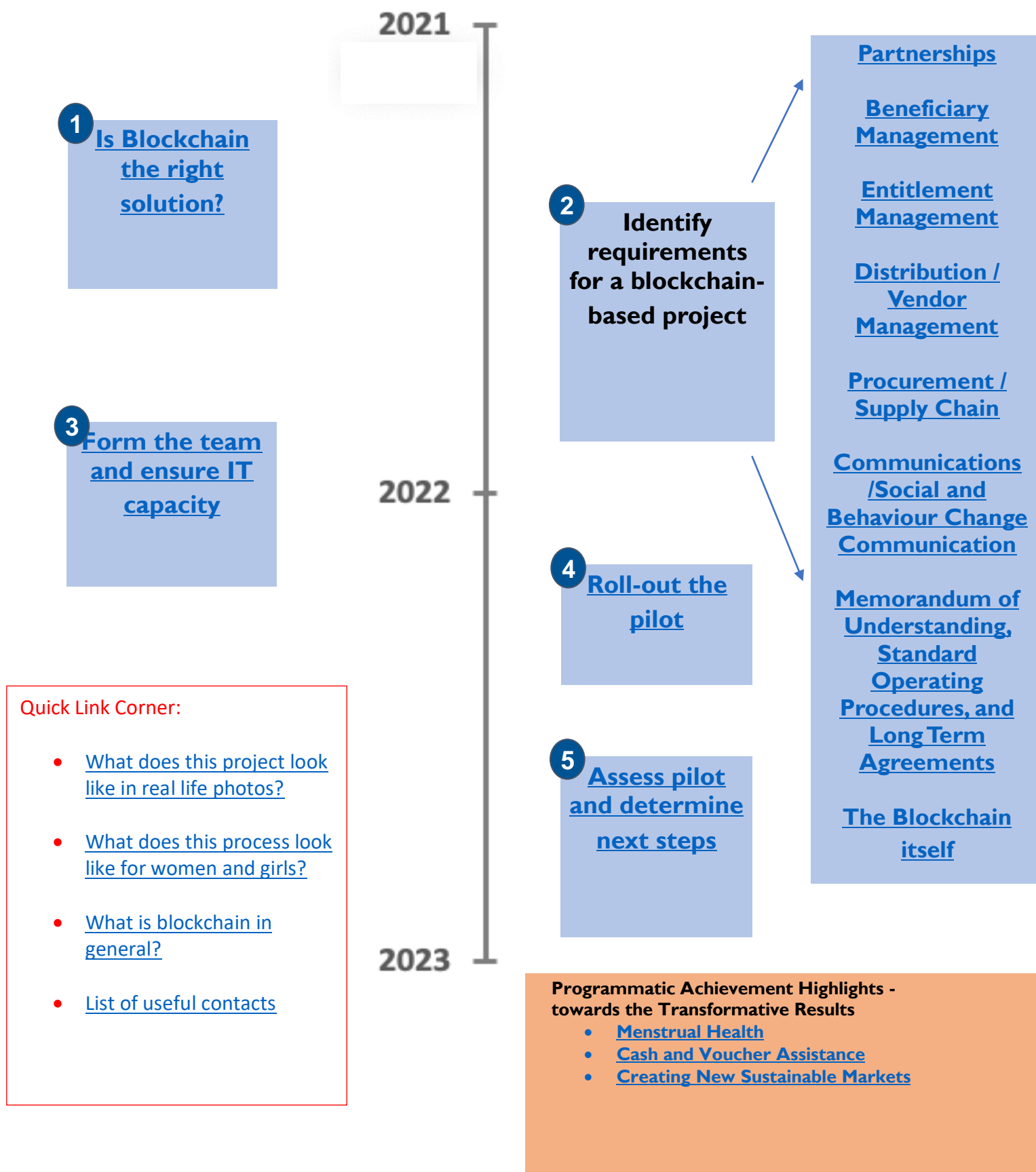
To respond to this Bangladeshi girls' simple yet powerful question, since 2021, with financial support from Swedish International Development Cooperation Agency (SIDA), the Global Programme to End Child Marriage (GPECM), UNFPA's Emergency Fund (EF), the World Food Programme (WFP) and UNFPA have been using WFP's Building Blocks blockchain platform to deliver sanitary pads and nutritious food to beneficiaries in Dhaka's urban slums – together.

Our Top Findings

- With Blockchain, we reach vulnerable women and girls more effectively than if we didn't have Blockchain. **'More effectively'** means women and girls now have a one-stop shop for receiving aid from multiple agencies – they purchase vegetables that were produced with FAO support with cash that WFP distributed and pick up UNFPA sanitary pads together at small street vendors – and for any other day-to-day products they need via the vendor.

- This is because blockchain – a data and transaction management system - forces the decentralized sharing of data, in a secure way, which means:

  - UN agencies in the blockchain system can link different programming for the same beneficiary who has different needs through a common platform.

  - Blockchain can link to existing market infrastructure, to help distribute products and services together for beneficiaries.

- Through this project we are reaching 3,367 women and girls in Dhaka's two urban slums with 3 different sanitary pad options each, every month (they can select 2).

- This distribution programme, paired with information, education, and demand generation, has led to an increase of sanitary pads' uptake from 32 to 96 per cent in just 8 months in a highly conservative context where half of women and girls were not aware of the existence of sanitary pads and child marriage is prevalent. This illustrates the potential of market-based solutions that promote positive behavior change communication on menstrual health and offer choice through Cash and Voucher Assistance (CVA).

- Bigger picture, we are pioneering a structure for Bangladesh and its vulnerable people for the future, where potentially 40+ million people receive social protection through a platform, supported by a vast, common, secure, database, which the private sector is part of.

Timeline and Roadmap of Steps Needed

Click on each link for a 1-page explanation with lessons learned

2021

1 **Is Blockchain the right solution?**

2 **Identify requirements for a blockchain-based project**

Partnerships

Beneficiary Management

Entitlement Management

Distribution / Vendor Management

Procurement / Supply Chain

Communications /Social and Behaviour Change Communication

Memorandum of Understanding, Standard Operating Procedures, and Long Term Agreements

The Blockchain itself

2022

3 **Form the team and ensure IT capacity**

4 **Roll-out the pilot**

5 **Assess pilot and determine next steps**

Quick Link Corner:

- What does this project look like in real life photos?

- What does this process look like for women and girls?

- What is blockchain in general?

- List of useful contacts

2023

Programmatic Achievement Highlights - towards the Transformative Results
- **Menstrual Health**
- **Cash and Voucher Assistance**
- **Creating New Sustainable Markets**

Is blockchain the right solution?

Whether blockchain is the right solution for your programming may depend on a sequence of key questions:

1. Does a Building Blocks Platform already exist in your area/country of operation, that you can join?

   At the moment, this is essential. UNFPA and WFP were able to do blockchain-based programming together in Dhaka's urban slums because WFP's Building Blocks (BB) platform was already operational in Bangladesh. Because BB was available, and initially low-investment, UNFPA was able to piggyback on this existing system.

   Be open- there are other blockchain-based platforms being piloted in other locations by other organizations, these may offer UNFPA offices the opportunity to use blockchain without BB.

2. Do you need to collaborate between multiple agencies and organizations, where the beneficiaries receive multiple types of aid?

   This is one of blockchain's main value-adds, as by design it forces decentralization and sharing of information. UNFPA and WFP have now been enabled to not only deliver aid together, but to look at new and creative ways they can link, cross-incentivize, and streamline both their programming and behavior change communications together.

3. Do the women and girls you're serving face stigma/dignity/Gender Based Violence (GBV) risks while travelling to traditional distribution points?

   Blockchain's ability to integrate with existing private sector infrastructure, and allow women and girls to go to vendors they are comfortable with to receive sanitary pads, has helped minimize/neutralize these barriers.

4. Does your programme require a digital transaction management system?

   UNFPA and WFP chose to use BB in part because what they wanted to do in terms of CVA programming required this, UNFPA did not have an alternative system (UNFPA was using Excel spreadsheets), and the BB platform was readily available

When might you choose to use a standard voucher or mobile wallet over blockchain?

- In areas of operation where there is no connectivity, or internet is unreliable

- If you are already distributing cash using a local financial service provider and its existing market penetration matches your immediate requirements (a BB network takes time)

Partnerships

One of blockchain's purposes by design is to decentralize information and encourage coordination – so supporting and rolling out the system with partnerships should naturally follow.

As UNFPA began to identify the requirements necessary to deliver sanitary pads to women and girls in urban slums – beneficiary management, entitlement management, etc., it also had to think about which partners could help where UNFPA had gaps, and partnered with WFP, BRAC and Concerned Women for Family Development (CWFD).

WFP is UNFPA's main implementing partner for this project, largely because they already had an ongoing project distributing cash for food in Dhaka's urban slums, and already had BB as a tool available – UNFPA was able to piggy-back on both, to add-in menstrual pad distribution.

WFP

- The BB team – based in WFP's HQ - adapted their existing set-up (to facilitate WFP vouchers for food) to UNFPAs needs, such as adding into the system different types of assistance possible like MHM, and setting limits on how much product is possible to disperse. The pre-existing BB app for Vendors use was also adjusted for UNFPA.

- The WFP CO facilitated all of UNFPAs entitlement and beneficiary management needs as partnership started at Tier 1 level of BB system given UNFPA's limited exposure to beneficiary management system at scale and requirement of BB system. WFP facilitated the procurement of sanitary pads and group purchase agreement.

BRAC

- Since August 2022, BRAC became an IP of UNFPA in this project and is facilitating sanitary pads' supply chain mechanism, such as checking stocks, making group orders on behalf of street vendors with suppliers.

- BRAC also supports with beneficiary management and acts as a general liaison with vendors and beneficiaries, as a first line of support for problems and questions, while maintaining a hotline for phone queries and complaint mechanism.

CWFD (Concerned Women for Family Development)

- CWFD leads demand generation for sanitary pads and facilitates community engagement, and trainings held in separate areas of the slums with women and girls receiving the sanitary pads, educating them on how to use them and when, etc.

Lessons Learned

- *"At the beginning of the project, there were some mismatched expectations of what blockchain could and could not do for us - frequency of communication and openness between partners is key"* – ex-UNFPA Management

- When attempting to use partners' systems to fill gaps, such as WFP's corporate SCOPE beneficiary management system, understanding of their internal policies governing the use of the tools is essential.

- *"Between (partners) there is sometimes a fear of sharing information – 'what are they going to do with it?' – so blockchain forces sharing and thereby forces cooperation"* – ex-WFP Management

- They also deliver IEC materials to the street vendors to give to the beneficiaries when they redeem their monthly entitlement of sanitary pads.

Beneficiary Management

This is an area that needs to be coordinated outside blockchain, and likely with other agencies and organizations. BB is NOT a beneficiary management system – and UNFPA Bangladesh did not have any existing system or capacity in this regard. The Project used Excel Spreadsheets and began with process questions such as:

- Who are we going to target with assistance? What will be the defining criteria?
- Once you have the criteria, how are we going to identify them?
- How will they prove who they are at point of redemption?

Once this approach is determined, a "common denominator" is necessary. For example, in refugee camp environments, United Nations High Commissioner for Refugees (UNHCR) simply gives IDs to all refugees, which in a relatively controlled environment like a camp is usually reliable and easy to integrate.

In non-refugee camp and more complex situations – like in the urban slums of Dhaka - we needed to find another way, in the absence of national ID cards, and with biometric ID methods not allowed.

The solution for the slums was to use phone numbers as a "common denominator" – specifically linked to mobile money accounts. This was a prior requirement to be a WFP beneficiary for their cash assistance programme and WFP put a system to help urban slum dwellers to obtain mobile phone numbers and open mobile money accounts. And UNFPA latched onto this as an ID method as UNFPA beneficiaries are subset of WFP beneficiaries.

Every month, WFP provides UNFPA data sets in Excel with updates on all the demographic criteria UNFPA needs to target its sanitary pads to the right people (i.e. are they menstruating etc.)

This phone number is used as an account ID in the BB platform – and entitlements are assigned separately. Each household is issued a plastic BB card with a QR code, that links to their BB account.

In addition, to reduce fraud risks, beneficiaries are sent via SMS a PIN code unique to them, that they have to present in conjunction with their BB card when redeeming their monthly entitlement.

Lessons Learned

- Excel is not suitable for beneficiary management system – due to data protection issues, its error-prone and requires manual actions – underlining the importance for UNFPA to also develop or adopt its own beneficiary management system

- Integrating even non-Excel beneficiary management systems with blockchain platforms like BB is also not automatic, it can be quite complex technically. For example, UNFPA has piloted using WFP's beneficiary management system SCOPE, to load entitlements into BB – but while this process works for WFP in Cox's Bazaar, it was not rolled out in the slum project due to system and management issues.

- Using an OTP (one-time password) was considered initially, instead of a PIN, but that would require beneficiaries to bring family phones (that they may not have) to the vendor.

- BB is also NOT a transaction management system for the beneficiary – beneficiaries were not able to check their balances on BB unless they go to the vendor. Hence SMS reminders were sent out monthly.

Entitlement Management

As with most programming, this was a first step towards setting up the BB platform with WFP for UNFPA's needs, including:

- What are the problems women and girls are having?
- What do they need to help with the problem?
- How are we going to deliver it (i.e. communications or commodities or CVA? Etc.)

For women and girls in Dhaka's urban slums, since more than 50% do not use (and in some cases don't even know about) menstrual health products, and UNFPA decided on giving each beneficiary 3 different products to choose from (regular sanitary pads in two different sizes, and pads with belts (for non-panty-wearers), and 2 could be redeemed once a month.

UNFPA trainings and messaging, done through CWFD, on how to use these products and promote behavior change were conducted with the same beneficiaries separately, to generate demand for services and sensitize them on the process.

UNFPA worked with WFP and the BB team to produce distribution lists (a spreadsheet of each household and the value of the entitlement) that are uploaded into the BB system, so when beneficiaries go to the shops and present their BB cards and PIN code, they receive their entitlement once the vendor (shop owner) scans the card and enters the PIN into the BB app on their phone.

UNFPA's IT consultant worked heavily with the BB team to adapt the App for beneficiaries (since it had originally been developed only for WFP).

Unused virtual credit in the BB system expires within 60 days.

Lessons Learned

- The price of each pad (and the profit margin for the vendor) was fixed in BB – so that vendors did not have incentive to push one pad or the other.

- At the beginning of the pilot, we discovered beneficiaries were under spending - a follow-up survey revealed many women did not wear panties and required a belted pad, hence the later introduction of that option.

- There is a high dependence of the internal processes of WFP at Tier 1 level, where BB is provided to UNFPA as a service.

Distribution /Vendor Management

Once beneficiaries and entitlements had been identified, where would UNFPA deliver assistance? Where would women and girls need to go?

This was already both a challenge and an opportunity for UNFPA and other UN agencies: women and girls often have to travel long distances to UN distribution points, raising security risks as well as burdening their valuable time with travel. It can typically take one to two hours roundtrip for a woman or girl to reach one distribution point, time that could be spent on school or family care. In the remote areas of Bangladesh, it is not uncommon for girls to spend 7-8 hours roundtrip to reach a distribution point.

Women and girls also want to feel safe, secure, and anonymous when receiving sanitary pads, especially in a context where menstrual health is stigmatized.

This is where blockchain can help UNFPA help women and girls overcome these challenges – by decentralizing the data, and linking with other UN agencies and private vendors, women and girls can go to the local store of their choice, receive aid all together, and where they feel more comfortable.

And in this case, for UNFPA, WFP had already been operating a cash for food programme in Dhaka's slums using street vendors, and WFP had already vetted and selected them. These vendors WFP was using were also already in the BB system, so it was easy to latch onto this.

Vendor requirements – connectivity and equipment

For a blockchain-based system to work, internet access is a must.

Initially, for a period, WFP paid the vendors to maintain internet access, but this was discontinued after it became apparent vendors were maintaining connectivity anyways, and this support was not needed.

Having a smartphone to hold the BB app to process transactions is also a requirement for vendors- WFP manages the distribution of the BB app, and directly facilitate vendors installing it to their phones. However, this is already less burdensome of a requirement than other data management systems, which sometimes demand specialized portals, tools, and infrastructure at the point-of-sale.

Access to the BB app continues to be restricted to only WFP and participating vendors.

Procurement and Supply Chain

To enable the supply of pads, WFP and UNFPA worked together on the following process:

- UNFPA reviewed the local market for products that fit its and its beneficiaries needs, and then informed WFP

- UNFPA prepared technical specifications of the menstrual products

- WFP conducted bidding process and identified five different suppliers of those products, and vetted them for quality, cost, delivery, etc.

- Once suppliers were selected, WFP negotiated the product prices and margins with all 21 street vendors WFP was already working with on UNFPA's behalf and signed group purchase agreement on behalf of UNFPA, IP, and shops.

- Supplier negotiation on product price to the vendors, arranged by WFP.

- UNFPA, through BRAC, then pays the street vendors whenever they distribute the menstrual pads (street vendors must buy the pads in advance, they are not re-imbursed at this point)

- UNFPA is informed about menstrual pads' distribution once BB (with a 15-day payment cycle) sends UNFPA data on what has been distributed

- This data comes in Excel, but in raw form, and needs to be processed to be useful. Once processed (via a script created by IT consultant) UNFPA then generates invoices and calculates taxes to pay for the pads for BRAC (the vendors themselves are un-registered)

- BRAC follows up with street vendors on their supply levels, and helps them plan for new purchase orders when stocks are low

Communications and SBCC

In collaboration with its partner CWFD, UNFPA conducted two main SBCC communications activities on Menstrual Health Management (MHM), prevention of child marriage, Sexual and Reproductive Health and Rights (SRHR), and counseling services.

The goal was to sensitize beneficiaries to menstrual pads and teach them how to use them. As many women and girls still did not know how to use menstrual pads due to their limited exposure to pads, stigmatization or privacy issues, this was an attempt to promote longer-term awareness and behavior change.
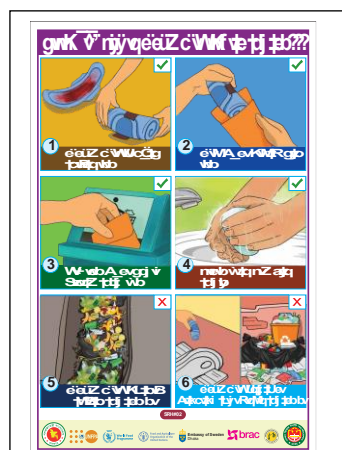
In-person trainings were conducted in the urban slums, as seen below:

Information, Education and Communication (IEC) materials were also distributed along with menstrual pads by the vendors:

Lessons Learned

- *"I will save my Tiffin money to buy pads" – girl when asked what she will do if this project ends*

- Because of the concept and purpose of the BB system getting IEC materials to be loaded into the BB system and tracked as if they were other commodities has remained a challenge

- The reason for this is BB's design as a CVA aid distribution mechanism, versus services (and UNFPA historically delivers mostly services, as opposed to WFP)

- A parameter for BB to track an item is that it must have "value" – value on the open market a bag of rice has, where a flyer does not.

Now that UNFPA has linked its programming with WFP, both organizations are now exploring joint SBCC communications (re-enforcing nutrition and women's health themes) as well as cross-incentivization (if you redeem and use your pads, perhaps a food credit bonus is made available, etc.)

MoUs, SOPs and LTAs

As with any joint project, MoUs and SOPs form the legal, technical and procedural backbone for implementing activities.

Below is a small collection of the most useful and relevant documentation to this pilot, available to UNFPA staff on Shared Documents. If you are viewing this from outside of UNFPA, please feel free to request a copy from the UNFPA sender.

UN2UN transfer agreement between WFP and UNFPA: detailing initial roles and responsibilities and costs.

Building Blocks SOPs for Bangladesh: complete with workflows detailing blockchain's interaction with beneficiary management activities and financial reconciliation.

WFP-facilitated Group Purchase agreement: detailing the ToCs and pricing arrangements for sanitary pads with suppliers.

"Tech Specs": building on the UN2UN agreement and detailing where UNFPA is currently in its progression in the BB system (Tier 1), and what it would need to do to become an independent member at Tier 3.

The Blockchain itself

How does the blockchain fit into the rest of this ecosystem of activity? What does it do?

It's useful to remember that a blockchain – simplified – is a data and transaction management system, with the characteristic of enforcing sharing and decentralizing of information. In this operation, BB:

- Receives entitlement allocation instructions from a beneficiary management system (in Bangladesh's case both WFP's SCOPE system and excel sheets uploaded manually have been used)
- Authenticates redemptions by women and girls at the point-of-sale (the vendor using a smartphone app linked to BB) by the scanning of the QR code linked to their unique ID on the blockchain (in other contexts biometrics are possible).
- Authorizes redemption and manages/adjusts the beneficiaries' account balance accordingly
- Generates raw data (in Excel) on redemptions

Below is a graphic of how UNFPA, WFP, and components like beneficiary management interact with the BB system. At the moment, UNFPA is operating at a Tier 1 level, where WFP helps UNFPA and operates/maintains most of the systems necessary to run the blockchain and deliver services.
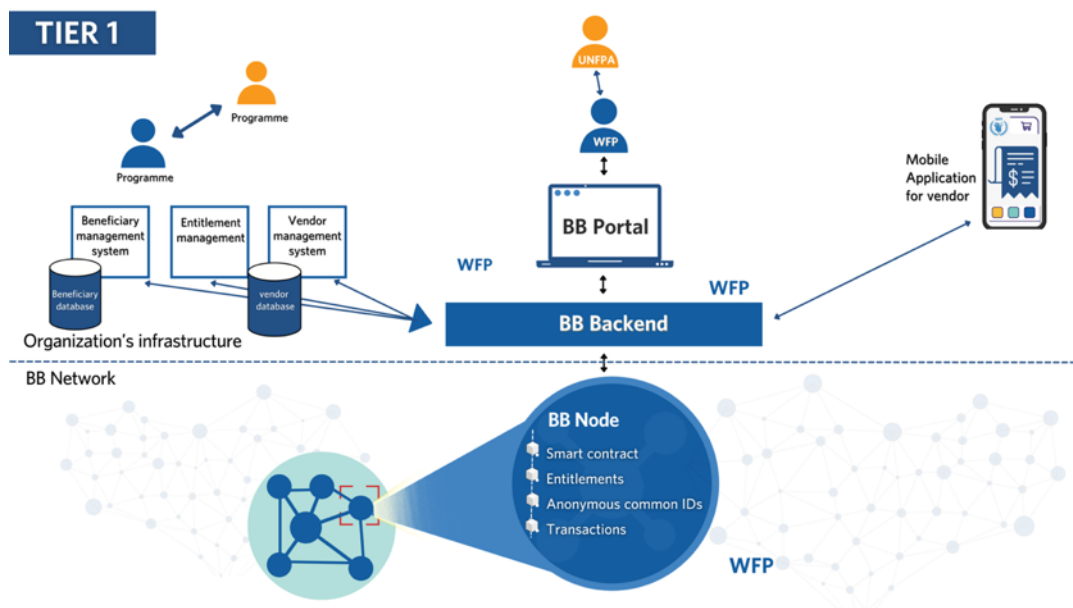
UNFPA may take steps so that in future, it can independently operate the BB system at Tier 3.
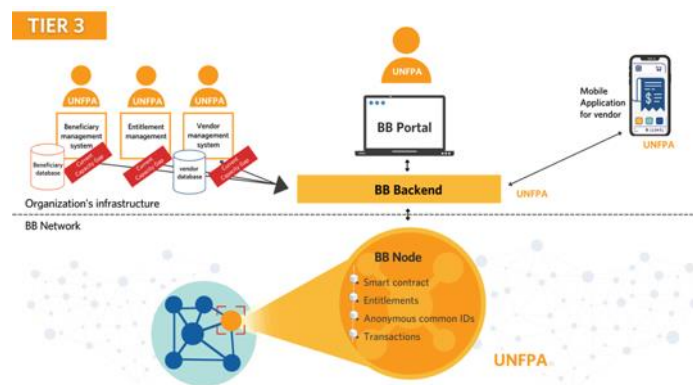
Form the team, and ensure IT capacity

In addition to its implementing partners, for day-to-day blockchain management requirements UNFPA sought to assemble a team with a variety of backgrounds with skills filling gaps in UNFPA capacity:

Team lead with UNFPA programming expertise: to provide overall leadership and guidance to the team as well as merge UNFPA's traditional programming with a new innovative system – while keeping focus on the three transformative results.

IT blockchain specialist (and seconded from WFP): to provide the necessary IT expertise from a UNFPA perspective (when engaging with partners to make the BB pilot happen), help translate what system technicalities mean for programming, and manage day-to-day operations.

National programme officer: to provide local expertise and perspective, as well as link between UNFPA and its local implementing partners, Vendors, and beneficiaries, providing a wide range of key support (including on trainings and targeted messaging).

Communications / strategy consultant: to help the team think through how it talks about blockchain (still a confusing term for many) as well as think through the overall strategic approach of the project.

UNFPA leveraged mostly existing staff members in this case – the IT consultant had already been working on BB from WFP's side (to help UNFPA), and the National Programme officer had been working with UNFPA for several years on various projects. Only the communications consultant was brought in externally (but had past UNFPA and WFP experience).

Lessons Learned

- *"This project may not have worked with another team - the team brought very different qualities and views, with genuine forthcomingness, that made final products easy" – UNFPA Management*

- For parts of the project, the IT and Communications functions were carried out remotely. This is an indicator of what UNFPA's needs will likely be in any Bangladesh or Global expansion of the project – IT support may only be initially needed on the ground to train staff and roll-out platforms/systems. That support may then be filled remotely or possibly in a roving role.

Roll-out the Pilot

The pilot was rolled-out in two phases: first, while BB was not quite yet ready for UNFPA's specifications, UNFPA used a temporary SMS / voucher system. Then this was phased out once BB became operational in vendors' shops, and the BB Smartphone app. could be used for tracking redemptions.

In a way, this experience has highlighted for UNFPA the value of using digital systems over manual ones: on the left is what a typical hand-written, printed out Excel document looked like at each vendor's shop to track redemptions. On the right is what the verification process looks like now, with BB.

Lessons Learned

- Electronic systems of data management create far more reliable data and are far more scalable than manual systems. Every month, 22 of the above hand-written pieces of paper had to be collected and checked.

- BB helped save UNFPA time, money, and even relationships. Handwriting errors led to multiple discrepancies and disputes with vendors and IPs, and the process was so tedious for shopkeepers that UNFPA had to compensate them extra (50% of sanitary pad markup) for the trouble.

- By the time the handwritten data was collected and cross-checked, its data was already far from the new reality on the ground, whereas BB (or electronic systems in general) can allow for real-time access to data. It must be noted that BB does not automatically do this – it turns out "raw" data that must be processed – but with some limited investment and process organization this can be streamlined.

Assess the pilot and determine next steps

Before the project's official closing date in February 2023 (and as the possibility of extending the project is considered between UNFPA, WFP and donors), UNFPA took two main assessment steps: first, to compile all operational steps and lessons learned from the pilot for future use (this document!), and second, to get external advice to help with the question "How should UNFPA Bangladesh move forward with Building Blocks?"

This question poses particular importance at a time when UNFPA as an organization is initiating more humanitarian activity, CVA, and attempting to change as an organization in part by becoming more systematic and scalable in how it manages data.

An external review analyzed BB across three broad criteria:

- As a Technology (what is it, what does it do and not do, what are long-term cost/governance/open-source considerations)
- Internal to UNFPA (how well does it fit with UNFPA strategic priorities and programming, both globally and locally, and what are the organizational learning / capacity building implications)
- External to UNFPA (what are inter-agency, private-sector partnership, and long-term government social protection system linkages)

The review recommended UNFPA move forward with Building Blocks in a measured way, subject to ongoing WFP and donor discussions, with an eye towards eventually possibly making the investment and commitment that would allow UNFPA to be used BB globally independent of WFP, as a BB platform member.

The overall rationale for this recommendation is to enable UNFPA to continue learning/growing with this new technology (as UNFPA staff would have to take on new BB-related responsibilities if WFP turns over its role as service provider) while buying time to gain further understanding of several risk and opportunity factors, mostly related to governance, cost, open-source, and any further UN Agency adoption of BB as a common platform).

As of February 2023, UNFPA Bangladesh is working with WFP and donors to identify possible funding to continue the current project, or start a new later in the year.

Lessons Learned

- *(WFP view) "I wish I'd put everything (lessons learned) together in one place in a document" – WFP ex management*

- Feedback from staff on how to best share "lessons learned" and assessment-type documents had the theme of keeping things short and actionable, hence the approach to this document.

- Such efforts are best taken immediately, as human memories may be short/ fragile, and documentation can be lost/deleted.

Menstrual Health Achievements

Highlights

1. UNFPA distributed a total of 44,972 sanitary napkins to 3,367 women and girls on a monthly basis for 8 consecutive months without setting up a single distribution point. We used a perfectly operational, existing supply chain system for the distribution, which is small shops that sell groceries, food, and including vegetables.

2. Women and girls in the slums gained a better understanding of their bodies and menstruation. The uptake of menstrual pads increased from 32% to up to 96% between February and November 2022, with an average uptake rate of 80%. Women and girls in slums now know a better, easier, and dignified way to manage their menstruation.

3. When UNFPA first started, only 4 out of 21 partner shops were selling sanitary pads and their monthly sale was limited to 10-20 packages only. Now all our partner shops in Duaripara and Bashantek slums sell sanitary pads and UNFPA sees great potential for continuity.

4. Through this project, we are demonstrating how UN agencies and private sector entities (shops) can complement each other using new technology to serve beneficiaries and most importantly how UN agencies can work together in an efficient manner.

Due to Bangladesh's particular context, women and girls in urban slums face multiple menstrual health challenges, as does UNFPA in its programming:

- **Stigma/dignity**: Only 51% of women surveyed prior to this project were aware of menstrual pads, and of those, only 42% used pads. Traditional and public distribution points contribute towards this problem in an environment where pads are stigmatized, increasing the levels of potential shame for women.

- **Time/distance**: women and girls often have to travel long distances to UN distribution points, exposing them to extra GBV risks and wasting valuable time/energy they could use on home or school.

UNFPA's block-chain-based programming in Dhaka's slums helped manage both of these challenges, by linking with existing WFP cash for food programming, and linking to existing small street vendors, where women and girls can choose where they want to go and where they feel more comfortable receiving aid.

Lessons Learned

- The local context/culture may present surprising "unknown unknowns" that are barriers to MHM product uptake.

- For example at the beginning of this pilot, UNFPA noticed an 'underspend' – women and girls not redeeming as many pads as they could.

- A survey found that women were not redeeming traditional pads because they often do not wear panties

- In response, UNFPA began providing belted pads, and product redemption increased once this option adapted to the local dress culture was introduced

Cash and Voucher Assistance

Establishing partnerships and building on existing systems for the delivery of CVA, including through innovative digital technology like Blockchain when friendly for the women and girl recipients, strategically aligns with UNFPA's priority CVA work.

The technology allows paperless vouchers to be processed between the beneficiary and the distributor in a quicker, more efficient, and safe manner, and is helping UNFPA explore ways in which it can potentially integrate and mainstream it into its humanitarian preparedness and response efforts outside of the Dhaka slums.

Even though beneficiaries in Bangladesh essentially use an electronic voucher to redeem sanitary pads through the BB platform, **our programming has behavioral and strategic elements of flexibility**, in that offering women and girls 3 different types of pads to choose from has resulted in greater product uptake, which is what we might expect in other programming where women and girls are given cash: they will use that flexibility to buy what better suits their needs.

Here are visuals of the 3 different pads woman and girls can choose from with their voucher:

Lessons Learned

- *(WFP view) "For me this was a behavior change programme – 'how do I turn cash into food?'" – WFP Management*

- While there is a strong BB use case for Vouchers, the use case for Cash is mixed

- In Bangladesh (and in many other contexts) existing private mobile money networks will often have higher market penetration, don't require constant connectivity, and give the beneficiary more control.

- However, it may be harder to combine SBCC programming with mobile money options, and studies show linking aid with WFP food can improve health outcome (ex. When women and girls are hungry, they do not prioritize SRH).

Creating New Sustainable Markets

Late in the project, UNFPA initiated a survey with its network of small private vendors in the Dhaka slums to estimate UNFPA's impact via public-private sector partnerships and on the local economy.

The results were striking, suggesting that **not only were vendors gaining new non-sanitary-pad customers and revenue, but that new, organic demand for sanitary pads had been created** – vendors both inside and outside UNFPA's network were beginning to procure sanitary pads on their own.

70% of UNFPA vendors reported doing this, using an outside supplier, while noting that 25% of their competitors, independent of UNFPA's project, were doing the same. The estimated volume was low – about 1 pad per day – but this is what might be expected of a new product in a new market (and particularly in a conservative cultural context).

The fixed margin vendors receive on UNFPA sanitary pad redemptions resulted in an average 14% revenue increase (about $24 a day). Outside of this, vendors estimated they were gaining a 7% increase in new non-UNFPA daily customers, leading to an additional 6% increase in daily revenue (about $10 a day).

Furthermore, 80% vendors reported that this was the first time they had used Smart phones as part of managing their business, and of those, 50% said they were now using Smartphone apps to manage other parts of their business as well, outside of the BB app.

BB's ability to link to existing private infrastructure (in this case, smart phones) and use them as a point-of-sale is critical for driving this sort of market-based change, at a time where both donors and the UN are looking for ways to create sustainability and future off-ramps for projects.

Lessons Learned

- The survey methodology had to strategically take into account how the data UNFPA was after – essentially "what is your daily revenue" – is a question most people are understandably reluctant to answer, even under confidentiality and anonymity assurances.

- The survey aimed to get around this by asking for estimates on average daily numbers of customers and their average daily spend, from both before and after the project.

- Also taken into account were additional costs incurred by the vendors to use BB (such as a $6 monthly internet bill) and lost "other" customers (since when a vendor – sometimes the only person at the stall – is busy distributing a sanitary pad, other customers have to wait and then may or may not choose to go to another stall (called "reneging" in the retail sector).
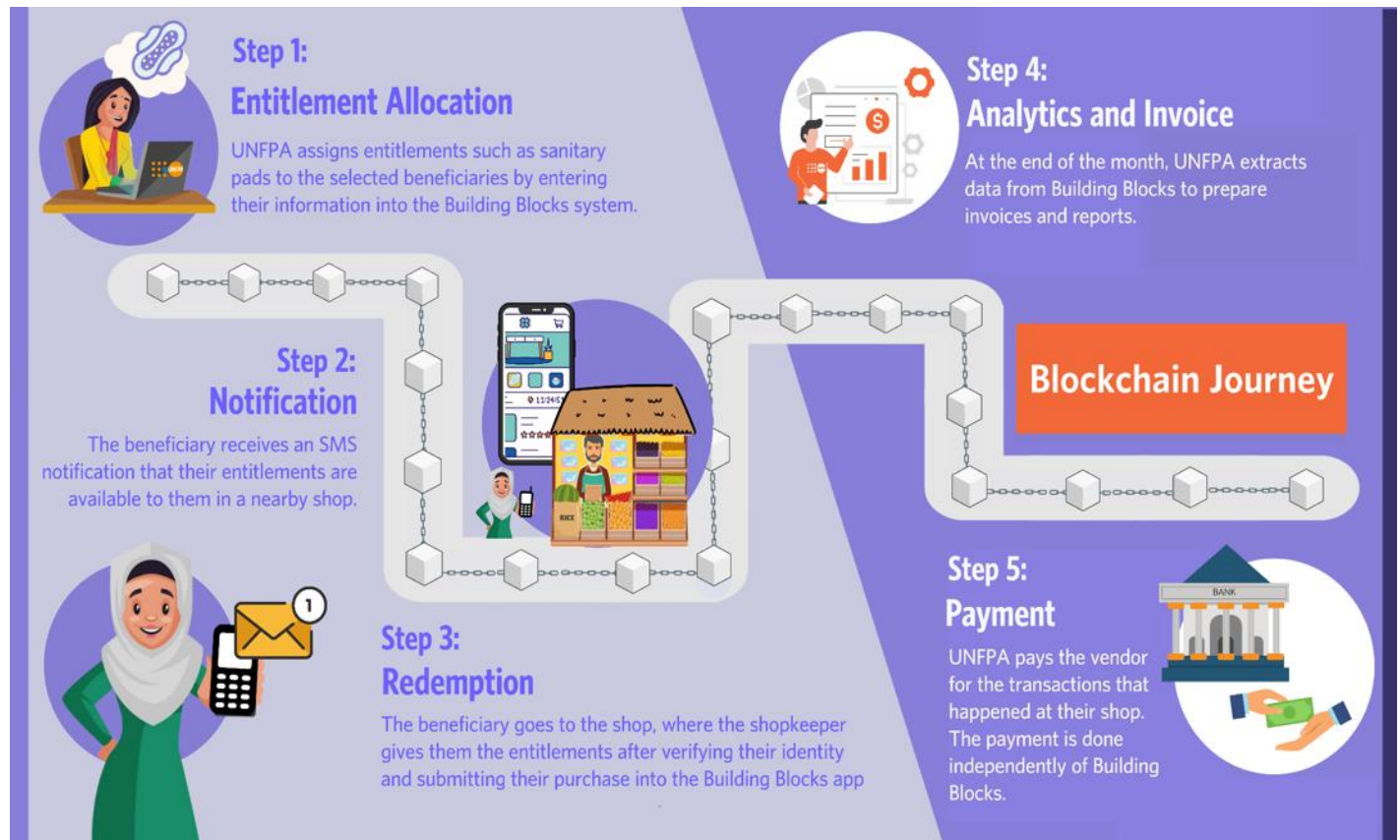
What does this project look like in real life?

What does this process look like for women and girls?

Below is a graphic detailing a beneficiary's journey using the BB platform.

In reality, <u>women and girls only see step 2 and 3</u> of this process flow:

What is a blockchain?

A blockchain is a growing list of records, called blocks, which are linked together using cryptography. Each block contains a cryptographic hash of the previous block, and a timestamp. As blocks each contain information about the block previous to it, they form a chain, with each additional block reinforcing the ones before it.

Therefore, blockchains are resistant to modification of their data because once recorded, the data in any given block cannot be altered retroactively without altering all subsequent blocks.

Blockchains are typically managed by a peer-to-peer network for use as a publicly distributed ledger, where "nodes" (= web servers) collectively adhere to a protocol to communicate and validate new blocks.

It's important to note that a blockchain is not the same thing as Bitcoin: Bitcoin is a digital currency that uses blockchain to store and share information, but there are many other ways a blockchain can be used – and UNFPA will use it to store and share information to help better distribute health products to women and girls.

> *Practical example:* You make a note (a "block") in your notebook saying "I went to an SRH training today." Later, you make a second note "I trained 20 women in SRH."
>
> If someone attempted to change your first note to "I went to the airport," it would fail, since your second note is digitally "chained" by a "hash" (like an electronic post-it sticker) to the first note, and only makes sense if you had gone to a training, not the airport. Your second note will sense all this, and reject the attempt.

Building Blocks - the blockchain platform developed by WFP

Building Blocks (BB) is a beneficiary-centric, blockchain-based platform initiated by WFP aimed at facilitating inter-agency collaboration in providing humanitarian assistance.

BB follows humanitarian digital principles. Sensitive data (i.e., personal information, name, location) is not stored on the blockchain. Instead, *common anonymous identifiers[i]* will serve as pointers to the organization's information platform. The various organizations using BB shall coordinate to ensure that their beneficiary identification mechanisms are in line with each other.

> *Practical example:* A computer in a WFP office connected to blockchain has information on a Jane Doe beneficiary. When the staffer at the computer tells the blockchain Jane Doe should receive credit for health products, blockchain creates a new ID 83s-ietudwo9 associated with that credit.
>
> When "83s-ietudwo9" safely and anonymously picks up their product, the blockchain tells the WFP computer 83s-ietudwo9 has been served, and the computer re-translates that back to Jane Doe.

As with any other blockchain platform, the BB aims to be neutral and all members are 100% equal co-owners, co-operators, and co-governors of the network, with the beneficiary at the center of its work. At the moment, only WFP and UNWomen (having joined in Jordan in 2019) are BB members. The way in which UN agencies and NGOs might in future to focus their efforts together using BB, with the beneficiary at the center of our work, is envisioned below:

BB's network nodes store the transactions, smart contracts, and common anonymous identifiers in the platform. Each member organization manages one or multiple nodes independently.

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