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# Design principles for demand-side subsidies in the off-grid solar sector

Briefing note

March 2020



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# Introduction

## This workshop is part of a three-part series investigating when and how demand-side subsidies (DSS) can ensure no one is left behind

### Workshop 1

Unlocking Solar Capital - Dakar  
(October 2019)

#### Workshop objectives

- Introduce DSS and provide historical and current examples of DSS in the off-grid sector
- Outline potential keys to success and major challenges

#### Expected outcomes

- Understanding of implementation risks, required stakeholder engagement, and DSS design structures



### Workshop 2

Global Off-Grid Solar Forum & Expo -  
Nairobi  
(February 2020)

#### Workshop objectives

- Deep dive into learnings from DSS both within off-grid and outside of it
- Deep dive into DSS design principles

#### Expected outcomes

- Alignment of DSS design principles used during country subsidy design
- Identify knowledge gaps to be explored with pilot



### Workshop 3

In-country (TBD)  
Date (TBD)

#### Workshop objectives

- Bring together learnings from both workshops 1 & 2 on DSS
- Identify potential DSS mechanisms worth piloting in-country

#### Expected outcomes

- Sensitization of DSS implementation
- Identify potential DSS mechanisms worth piloting in-country

## The objective of the workshop is to align on specific design principles for OGS DSS



### Part 1 – Review key learnings on DSS:

- Recap learnings and outline proposed design principles



### Part 2 – Panel discussion:

- Discuss learnings from recent DSS pilots

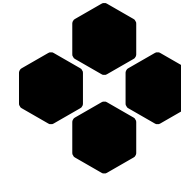


### Part 3 – Breakout session:

- Workshop a subset of design principles with case countries

Specific design principles will then be used to facilitate an in-country discussion during workshop 3 on subsidy design

## What is a design principle and why is it needed?

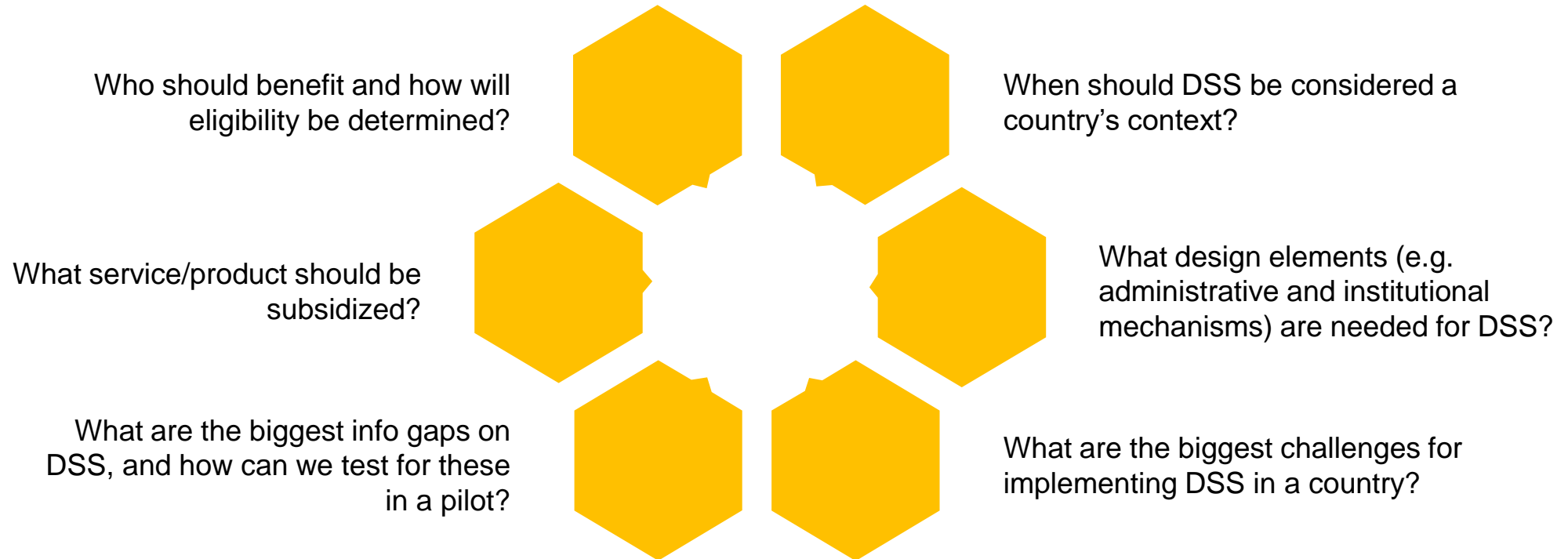


Design principles are **fundamental features of a program or scheme** that are requisite to achieving a specific end-goal



In this context, they can be **used to structure a subsidy that achieves improved electricity access** for low-income populations in underserved communities

## To align on design principles, several key questions need to be answered



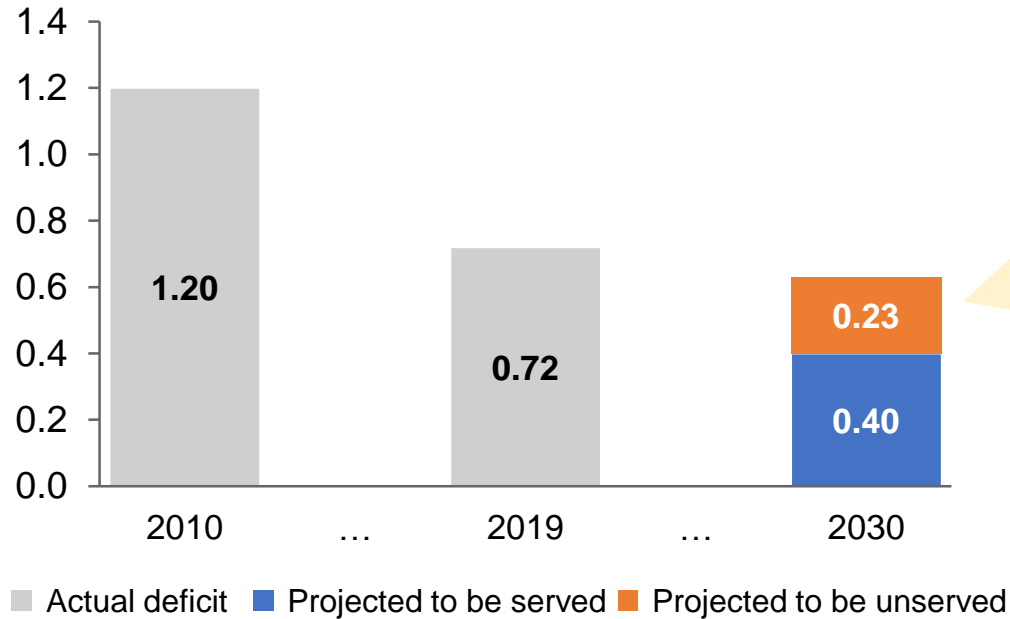


# Recap of the Dakar workshop

**Significant progress has been made towards SDG7, but through to 2030, large populations are projected to remain unserved**

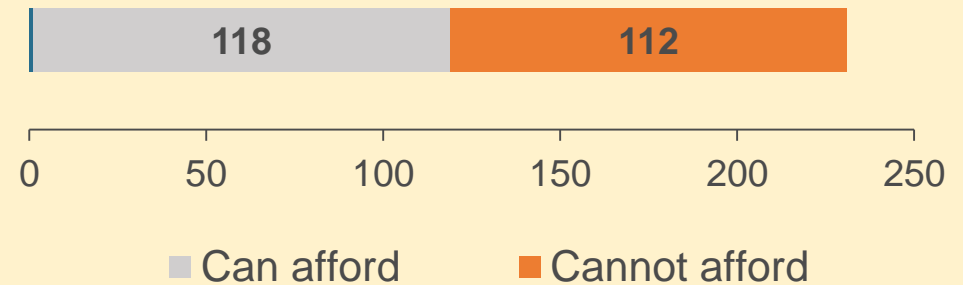
**Global electricity access deficit<sup>1</sup>**

Population (billions)



**2030 unserved population, by affordability**

Population (millions)



**Accessibility and affordability will be two of the key challenges to overcome in order to achieve SDG7**



# Unserved populations comprise four segments based on their ability to pay and access to off-grid

Able to afford OGS product



Unable to afford OGS product



**Commercial Market:** Consumers are able to pay for off-grid products and are in commercially serviceable areas

*Market building activities:* External financing



**Logistically Challenged Market:** Consumers are able to pay for off-grid products but are not within commercially serviceable areas

*Market building activities:* SSS



**Financially Challenged Market:** Consumers are unable to pay for off-grid products but are in commercially serviceable areas

*Market building activities:* DSS and SSS



**Non-Commercial Market:** Consumers are unable to pay for off-grid products and are not in commercially serviceable areas

*Market building activities:* DSS and SSS

Within commercial geographic reach



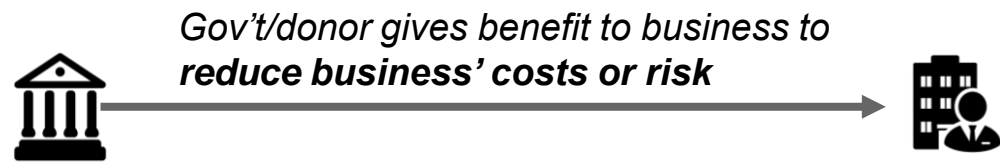
Not within commercial geographic reach

**DSS should be deployed first in *Non-Commercial* populations with adjacent commercial markets to start with, and then cautiously in *Financially Challenged* but serviceable populations while minimizing market distortion**

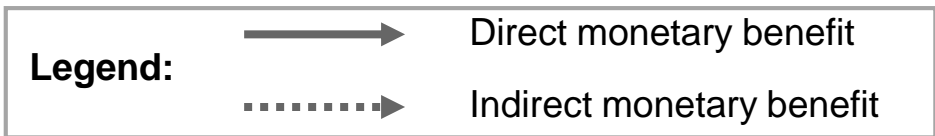
**DSS targets end-user to increase affordability through price reduction whereas SSS targets businesses to reduce upstream costs or risks**

**Supply-side subsidies (SSS)**

- **Purpose:** Reduces cost/risk for the company in order to increase access
- **Examples:** Tax exemptions, grants, concessional financing, results-based financing\*

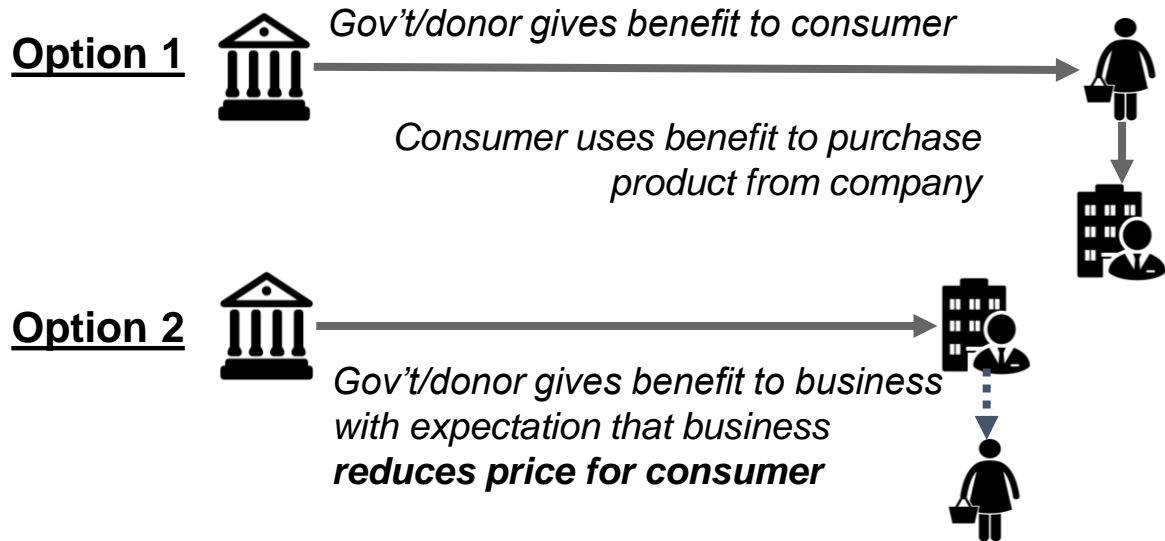


**Indirect subsidies are a form of SSS and an important form of support to create an enabling environment (e.g. consumer awareness campaigns)**



**Demand-side subsidies (DSS)**

- **Purpose:** Addresses affordability gap for end users
- **Examples:** Cash transfers, vouchers, free products, results-based financing\*\*



**Note:** \*Result-based financing (RBF) can serve both to increase access and reduce costs for end consumers. RBF can also be used in DSS in which funds are provided to the business upon proof of a sale of a product to a customer at a reduced price. \*\*Free products include public procurement programs that are based on willingness to pay of target customers

**Different types of SSS have helped off-grid companies grow and expand to new territories, helping millions gain access to clean energy**



**Tax exemptions**



**Grants**



**Concessional financing**



**Results-based financing (RBF)**

**Most suitable when**

- Market growth is hampered by extremely low customer ATP\*
- Governments have reliable border control/security
- Off-grid sector is backed by political goodwill

- Markets are at an early stage of development
- Established companies need incentives to expand
- Companies are not investment-ready and need R&D

- Companies are almost investment ready
- Investors require risk mitigation to make investments
- Companies need to maintain liquidity

- Companies already have a performance track-record
- Companies need incentive to enter new markets
- Companies are already working close to expansion regions

**Note:** \*ATP = Ability to pay

## Well-designed DSS will be needed to address the affordability gap to achieve universal electrification

DSS can be differentiated by whether they are targeted or conditional:

|               | Targeted   | Untargeted  |
|---------------|--|---|
| Conditional   | Specified population segment receives support to buy a specific product                    | Entire geography or country receives support to buy a specific product                            |
| Unconditional | Specified population segment receives monetary support or voucher to buy any (social) good | Entire geography or country receives unconditional monetary support to purchase any (social) good |

Despite potential benefits, DSS may pose significant risks to the commercial viability of a sector through:



**Market distortion:** Potential for distorted market expectations which undermine the ability of companies to sell their products



**Poor financial controls:** Potential for late/non-payment of subsidies by gov't or misuse of cash transfers by end-users, creating financial stress for companies within the sector

DSS programs need to be designed and implemented in a sustainable and scalable manner that generates new market opportunities to be successful

## In our breakout sessions, groups focused on topics including customer targeting, market distortion, and the use of data



**Group 1: Which customer segments are we targeting for DSS, and how do we decide on the appropriate approach?**



**Group 2: How do we minimize the risk of market distortion?**



**Group 3: What data do we need to effectively inform a subsidy program, & how can we take advantage of the PAYGo model?**

### Takeaways from the group discussion:

- The affordability gap needs to be well understood in order to correctly set the subsidy level, though willingness to pay studies can be costly
- Programs can leverage gov't safety net programs and gov't databases if they exist in country
- Customers who are unreachable under conventional market methods should be targeted
- Communicate why certain groups are targeted so that other customers who can afford systems do not feel they are shortchanged
- Ensure there is a fair administrator who is not politically motivated & does not favor certain geographical areas
- Voucher schemes are preferred, as they offer consumer choice while prices remain constant
- While PAYGo companies have customer data e.g. payment and location data, data for unserved populations is sparse
- PAYGo market must be well developed before enticing companies to enter into DSS
- Data aggregation across PAYGo companies may improve targeting, though infrastructure and regulation to support this is lacking

## Another group focused on how different stakeholders can best work together in implementing DSS



**Group 4: How can industry, donors, investors, NGOs and governments best work together to design and implement DSS mechanisms?**



**Other takeaways**

### Takeaways from the group discussion:

- Gov'ts should integrate subsidies into long-term electrification plans and support with robust customer databases, public awareness campaigns, and support for quality product providers
- The private sector can provide business models that DSS can plug into to reach underserved communities
- Industry partners can provide market intelligence\*
- Donors and NGOs can offer technical assistance or monetary support to DSS initiatives without undermining the business sustainability of the private sector
- The subsidy program must clearly define success, and requirements for objectives such as energy access, to make sure all stakeholders are aligned
- DSS need to fund products that solve for actual user needs and products that are affordable for end users
- Providing subsidies for income generating assets may enable more successful exit strategies.
- DSS may need to incorporate incentives for after-sales support to service long-lasting products post-subsidy



# OGS case studies



## Kenya: UNICEF partnered to test the feasibility of conditional cash transfers and their impact on consumers' sense of ownership

### Overview

**Key objective:** To test the impact of cash transfers on consumers' sense of ownership and feasibility

**Target customers:** Orphans, disabled individuals, and elderly people who are part of the Government of Kenya's National Safety Net Program in select counties (Garissa and Kilifi)

**Project status:** Ongoing (from 2018 – 2020)

### Project details



**Products:** SHSs with three lamps, phone charging, and radio ports; products provided by two private sector partners

#### Subsidy level



- **Donor contribution:** 100% of deposit & PAYG instalment (excluding USD 2.40\* enrollment fee paid by customer)
- **Contribution amount:** ~USD 20 per cycle
- **Payment cycle:** bimonthly for 6 cycles



**Verification process / authority:** SHS company reports payments to implementing organization via its internal CRM system



**Administration:** Cash disbursed by partner banks. SHS company monitors remotely. Donor reconciles balance of payment at the end of the pilot





## Kenya: Understanding local political and demographic context is necessary for success

### Evaluation

**Beneficiaries initially enrolled:** 2,100 people

**SHS deployed:** 1,600 beneficiaries collected systems

**Funds disbursed:** USD 50K

**Ongoing repayment rate:** High

### Lessons that inform best design principles

- ✓ **Consumer trust:** Building trust ensures end-users' willingness to engage with new products – the program worked with village councils to build trust
- ✓ **Clearing misconceptions:** Subsidies were offered in full for high-quality products e.g. Lighting Global quality-verified d.light and BioLite products, which helped to create an appetite for quality products amongst consumers
- ✓ **Existing infrastructure:** The program leveraged the Kenya National Safety Net Programme (KSNP) which started in 2009 - beneficiaries were already familiar with cash transfer logistics, improving implementation efficiency
- ⚠ **Budgeting and planning:** Project set-up time for beneficiary vetting and consumer awareness was underestimated which caused delays of up to 9 months
- ⚠ **Delays:** Delayed payments from government resulted in the companies deactivating the PAYGo systems, causing consumers to revert to traditional fuels
- ⚠ **Languages:** Garissa and Kilifi are not 'similar' regions as was initially assumed. This caused challenges including language barriers that were not easy to overcome



**Rwanda:** Currently in its early stages, EnDev's ProPoor DSS pilot was launched in 2019 to address solar home system affordability

## Overview

**Key objective:** SSS initially launched in 2014 to support market development and alleviate market barriers as part of Rwandan national electrification strategy. DSS pilot launched in 2019 to address affordability

**Target customers:** HHs in five southern districts (off-grid areas with low-income HHs without electricity)

### Project status:

Completed: 2014 – 2018 (SSS RBF)

On-going: 2019 – present (DSS pilot)

## Project details



**Products:** Solar home systems (SHS)



### Subsidy level

- Subsidy coverage of total SHS cost: Ubudehe I – 90 Euros, Ubudehe II – 70 Euros, Ubudehe III – 50 Euros



**Verification process / authority:** Potential benefit verified through gov't database, at any participating solar provider. Field agents then verify receipt of product and correct benefit through on-site visits and questionnaires through mobile phones. Field visits also includes additional impact questions.



**Administration:** Up to companies to find and verify beneficiaries. EnDev and Rwanda Energy Group (REG) track program progress through online database



## Rwanda: Although still in pilot phase, key lessons can be drawn from the design of EnDev's ProPoor DSS program

### Implementation status

**Participating companies:** Signed contracts with 3 so far, with 1 company actively selling products

**Technology and data:** Have access to government database

**Subsidy:** Upfront payments but exploring how payments can be spread out & paid via mobile money

### Key lessons from program design

**Stakeholder consultations:** conducted consultations before project kick-off with stakeholders including companies who have participated in the previous RBF program

**IT infrastructure:** leverages online IT tool linked to government database (with individuals' and households' data including income and location data), allowing for efficient verification of beneficiaries according to targeting criteria, and sales tracking

**Exit strategy:** In addition to setting a minimum three-year warranty for SHS, the program is also pushing for companies to provide system maintenance rather than sell new SHS; pilot is also designed to feed into subsidies for long-term electrification planning

**Pilot limitations:** The pilot currently makes one subsidy payment upon verification of sale of product; ideally, the subsidy would be dispersed alongside each PAYGo payment, but the pilot timelines did not allow for testing this mechanism



## Other sector case studies



## Tanzania (Agriculture): Government launched National Agricultural Input Voucher Scheme (NAIVS) to raise maize & rice production

### Overview

**Key objective:** Designed to raise food production in order to ensure national food security

**Target customers:** Maize & rice smallholder farmers who own up to 1 hectare of land nationwide

**Project status:** Completed (2009-2012)

### Project details



**Products:** One-acre package of maize and rice seeds, and fertilizer

#### Subsidy level



- **Customer contribution:** 50% of input price
- **Donor contribution:** 50% cash top-up payment
- **Contribution amount:** USD 42
- **Payment cycle:** Annual for 3-consecutive years



**Verification process / authority:** Subsidy eligibility verification done by district Agricultural and Livestock Development officers and seed & fertilizers suppliers



**Administration:** Village voucher committee officials identified beneficiaries, oversaw distribution, and monitored the use and redemption of input vouchers



## *Tanzania (Agriculture):* Effective use of private sector channels can promote market development, though ineffective targeting can lead to leakage

### Evaluation

**Farmers reached:** 2.5M farmers subsidized (one in four beneficiaries did not meet eligibility criteria)

**Tons harvested:** 2.5M tons of maize and rice harvested. 463kg & 263kg increase in maize and rice yields respectively per acre for beneficiary farmers

**Funding disbursed:** USD 211M+

### Lessons that inform best design principles

- ✓ **Private-sector led:** Importation & distribution of subsidized fertilizer was done by private sector through local importers and agro-dealers preventing “crowding out” of the private sector – essential for market development
- ✓ **Post-subsidy adoption:** Although 50% of the SHFs were unaware of the exit strategy and assumed support indefinitely, 47% of beneficiaries who had not used improved seeds before the program continued to use such products afterwards
- ⚠ **Delays:** Farmers missed planting rains due to delayed voucher distribution. This also caused cash crunches for agro-dealers who largely did not have access to credit lines
- ⚠ **Targeting:** Despite targeting poor farmers, upon program appraisal it was discovered that 25% of beneficiaries owned more than the set minimum size of land (1ha) & could afford fertilizer which suggested poor program management
- ⚠ **Communication & awareness:** Despite being generally aware of the program, awareness did not focus on specifics of the eligibility criteria leaving most farmers unaware of their eligibility (<1ha) – leaving out potential beneficiaries

**Note:** (1) Funds disbursed inclusive of USD 20M budget overrun due to lack of a clear exit strategy

**Source:** (1) World Bank, “Public Expenditure Review: National Agricultural input Voucher Scheme (NAIVS)”, [link](#), (2) REPOA, “NAIVS: Opportunities for improvement”, [link](#)



## Kenya (Cash): HSNP is a government-led programme aimed at reducing extreme poverty through unconditional cash transfers\*

### Overview

**Key objective:** Reduce extreme hunger & vulnerability of chronically poor households through well-targeted & effective safety net program. The off-grid UNICEF program was piloted based on learnings from HSNP

**Target customers:** Poor and vulnerable households in arid Kenyan counties of Turkana, Wajir, Mandera, and Marsabit

**Project status:** Phase I (Pilot): 2009 – 2012/13, Phase II: 2014 - 2017

### Project details



**Benefit:** Unconditional cash transfer

**Phase I:** Cash payment through a POS device at HSNP Payment agents located within the communities

**Phase II:** Equity Bank account or ATM MasterCard transfer



**Cash transfer amount:**

**Phase I:** From ~ USD 21 (2009) to ~ USD 35 (2012) bimonthly

**Phase II:** From ~ USD 46 (2012) to ~ USD 54 (2017) bimonthly



**Verification process:** Beneficiaries must be in HSPN database. Cash access through biometric identification (Phase I) and ID\*\* (Phase II)



**Administration:** Implemented through National Drought Management Authority (NDMA) in partnership with donor and technical partners such as Equity Bank who deliver payments

**Note:** \*HSNP is an abbreviation for Hunger Safety Net Program, \*\* ID refers to physical ID

**Source:** (1) National Drought Management Authority (NDMA), "HSNP", [link](#), NDMA, "Evaluation of the HSNP Phase (2): The legacy of HSNP Phase 2: systems, practices and lessons learned", [link](#)



## Kenya (Cash): Leveraging technology improved customer service and case management and enabled rapid cash transfer delivery

### Evaluation

**Households:** 400K+ beneficiary households

**Expenditure:** USD 223M+ (phase II – 76% spent on cash transfers & 24% on administrative costs) and USD 50M+ (phase I expenditure)

### Lessons that inform best design principles



**Role of data:** Data is a valuable resource – Country governments and NGOs leveraged HSNP registration data to formulate rapid cash transfers in the case of emergencies (e.g. 2017 drought)



**Financial inclusion:** Pioneered financial inclusion through agency banking & opening of bank accounts for HHs which in return improves HHs creditworthiness



**Communication:** HSNP has built a communication system with expansive use of SMS updates and digitized Case Management System (CSM) which improved recipient management



**Awareness and feedback:** Recipients were aware of acceptable practice benchmarks, enabling them to submit complaints through CSM



**Targeting:** Despite focusing on avoiding exclusion as opposed to inclusion errors, identifying poor HHs was challenging (there was a lack of specific IDs & income data in the regions targeted) raising questions on the cost-effectiveness of targeting the poor. In Phase II, customers were first registered for IDs before receiving benefits\*

**Note:** \*HSNP is an abbreviation for Hunger Safety Net Program, \*\* ID refers to physical ID

**Source:** (1) National Drought Management Authority (NDMA), "HSNP", [link](#), NDMA, "Evaluation of the HSNP Phase (2): The legacy of HSNP Phase 2: systems, practices and lessons learned", [link](#)





## Ghana (Agriculture): Fertilizer input subsidy program (FSP) improves agricultural productivity by providing affordable fertilizer for staples and cash crops

### Overview

**Key objective:** Designed as an emergency response to reduce the cost of fertilizer following the 2008 spike of food and fertilizer prices. It's funded through Ghana's Ministry of Food and Agriculture annual budget

**Target customers:** Staples (e.g. grains, vegetables) and cash crops (e.g. cotton) were targeted countrywide rather than specific farmers

**Project status:** Ongoing (since 2008)

### Project details



**Products:** 50kg bag of Nitrogen, Phosphorous and Potassium (NPK), Urea, Sulphate of Ammonia (SOA)

#### Subsidy level



- **Gov't contribution:** 30% - 50% actual
- **Contribution amount:** ~ USD 4 to ~ USD 10
- **Payment cycle:** One-off payment per 50 kg bag order



**Verification process / authority:** Verification (<2 ha of land) from 2013 was done by Agricultural extension offices under MoFA\*



**Administration:** Initially farmers received vouchers distributed by agricultural extension agents, but now farmers can buy the subsidized fertilizer from any agro-dealer at subsidized price (dealer claims back from importer who then claims back from government)

**Note:** \*MoFA stands for Ministry of Food and Agriculture

**Source:** (1) UN, NEPAD & IFDC, "Practices and Policy Options for the Improved Design and Implementation of Fertilizer Subsidy Programs in Sub-Saharan Africa", [link](#), (2) IFPRI, "Can Better Targeting Improve the Effectiveness of Ghana's Fertilizer Subsidy Program? Lessons from Ghana and Other Countries in Africa South of the Sahara", [link](#)



## *Ghana (Agriculture): A lack of exit strategy and untargeted farmers accessing the subsidy has led to continuous unplanned program renewal*

### Evaluation

**Fertilizer subsidized:** 1.08M+ metric tons

**Government expenditure:** USD 101M+

**Beneficiaries:** 0.9M+

### Lessons that inform best design principles



**Fertilizer uptake:** Has led to increased fertilizer uptake among smallholder farmers due to well-defined subsidy rate leading to improved agricultural productivity



**Private sector development:** Private companies import fertilizer while most agro-dealers can distribute - encouraging growth through participation of private sector



**Product accessibility:** Farmers can buy subsidized fertilizer from any agro-dealer, in any region, at any time thus improving consumer convenience/accessibility



**Targeting:** Lack of explicit targeting criteria (2008-2012) leading to larger-scale and wealthier farmers benefiting as opposed to resource-poor farmers SHFs



**Administration:** Use of voucher system initially led to high overhead and administrative costs leading the government to switch to waybill system\* in 2010



**Financial constraints:** Continual extension of subsidy has strained the government, making it difficult to meet its financial obligations to suppliers causing some such as Yara Ghana to opt out of the program in 2015

**Note:** \*Waybill system – Gov't negotiates final subsidy price (leaving importers to absorb all other costs), then distributors/retailer buys from importers & sell to farmers at subsidized price. Distributors/retailers then claim sales from importers who then claim from gov't

**Source:** (1) UN, NEPAD & IFDC, "Practices and Policy Options for the Improved Design and Implementation of Fertilizer Subsidy Programs in Sub-Saharan Africa", [link](#)



## Tanzania (Healthcare): TNVS for mosquito nets was launched in 2004 to reduce malaria prevalence among pregnant women and infants\*

### Overview

**Key objective:** Rolled out in 2004 to increase coverage of Insecticide Treated Nets (ITNs) to 60% in line with the targets set then in the Abuja Declaration in 2000\*\*

**Target customers:** Pregnant mothers and infants

**Project status:** Completed (2004 – 2014)

### Project details



**Products:** Insecticide Treated Net (ITN) and Long-Lasting Insecticide Treated Mosquito Nets (LLINs)

#### Subsidy level



**2004 – 2008:** Fixed subsidy voucher of USD 2.90, with USD 0.60 – USD 2 top up by end-user (depending on retail prices)

**2009 – 2012:** Consumer top-up fixed to USD 0.30

**2013 – 2014;** Hybrid voucher model - USD 5.80 voucher value, end-user tops up USD 0.30 for ITN at fixed retail price of USD 6.10



**Verification process / authority:** Suppliers reimbursed value of redeemed vouchers (after-sales reconciliation) at participating retailer/suppliers by a Logistics contractor



**Administration:** Ministry of Health through contractors selected via a competitive bidding process

**Note:** \*TNVS stands for Tanzania National Voucher Scheme, \*\*Abuja declaration was a commitment made by 44 African states to halve that rate of malaria mortality among African people by 2010

**Source:** (1) Karen Kramer et al, "Effectiveness and equity of the Tanzania National Voucher Scheme for mosquito nets over 10 years of implementation", [link](#) (2) USAID et al, "Making Targeted Subsidies Fast and Flexible The TNVS e-voucher", [link](#), (3) Rasha Khatib et al, "Markets, voucher subsidies and free nets combine to achieve high bed net coverage in rural Tanzania", [link](#)



## Tanzania (Healthcare): Despite implementation challenges, continuous design adaptability led to 91.5% of all HHs owning a net by 2011

### Evaluation

**Mosquito nets distributed:** 2M+

**ITN ownership:** Percentage of HH with at least one ITN increased from 22.5% in 2004 to 91.5% in 2011

### Lessons that inform best design principles

- ✓ **Retail network:** Effectively leveraged an already established retail network making it possible for the nets to reach the grassroots level in both rural and urban areas.
- ✓ **Increased nets uptake:** By 2011 91.5% of all households owned at least one ITN, leading to 15% decline of malaria mortality partly because of TVS
- ✓ **Fraud risk mitigation:** 10% fraud between 2005 & 2010, dropping to 5% (2011) due to anti-fraud measures e.g. oversight by LGA, tracking redeemed vouchers\*
- ✓ **Seed capital:** Frequent stock-outs of LLINs at retailer/supplier stores, due to lack of capital. Led to seed capital agreements, which provided existing TNVS retailers an initial stock, provided they make a personal investment
- ⚠ **Economically unsustainable:** subsidy did not cover additional costs for delivering products to remote areas, resulting in negative unit economics for distributors
- ⚠ **Paper & e-voucher unreliability:** Payment delays due to stock-out & distribution challenges. Led to roll-out of mobile-based e-vouchers in 2011. Poor mobile phone connectivity hampered use of e-vouchers

**Note:** \*LGA stands for Local Government Authority

**Source:** (1) Karen Kramer et al, "Effectiveness and equity of the Tanzania National Voucher Scheme for mosquito nets over 10 years of implementation", [link](#) (2) USAID et al, "Making Targeted Subsidies Fast and Flexible The TNVS e-voucher", [link](#), (3) Rashia Khatib et al, "Markets, voucher subsidies and free nets combine to achieve high bed net coverage in rural Tanzania", [link](#)

## Other sector learnings demonstrate that subsidy delivery can be improved through bank credit and increased accessibility



### Delivery

**Long distances may discourage beneficiaries from accessing benefits due to travel costs and inconvenience; 5-10km was considered close, and further distances reduce participation**

- In the case of a fertilizer subsidy in Malawi, the gov't incorporated transporters into subsidy design to minimize distances. Other gov'ts relied on existing agro-vet network to improve access to benefits\*



### Supplier Selection

**Lack of transparency in the tendering process creates market uncertainty that impedes the private sector from investing in new markets**

- Across multiple fertilizer programs in SSA, inconsistent or unfair supplier selection discouraged private sector from participation due to uncertainty about which company wins tender year to year



### Financing

**Credit facilities to participating companies can help ease liquidity constraints, thus improving subsidy delivery**

- In the case of a fertilizer subsidy in Tanzania, the government offered letters of credit through local banks to subsidy providers when there were gov't payment delays hence easing WC constraints\*\*



### Optics

**Specifically targeting the poor can be seen as antagonizing**

- In the case of a utility subsidies studied by the World Bank, households may choose not to take advantage of the benefits because of the stigma associated with being categorized as needy

**Note:** \*An agro-vet is a supply store that sells farming inputs for both crops and animals/livestock, \*\*WC stands for Working Capital,

**Source:** (1) NEPAD, "Practices and Policy Options for the Improved Design and Implementation of Fertilizer Subsidy Programs in Sub-Saharan Africa", [link](#), (2) Andres Gomez, "Making water affordable Output-based consumption subsidies in Chile", [link](#), (3) World Bank, "Water, Electricity, and the Poor Who Benefits from Utility Subsidies?", [link](#)



# Recommended design principles

## We recommend the following preliminary DSS design principles for discussion (1/3)...



### 1. Well-targeted

#### **DSS should be highly targeted utilizing data-driven approaches to select beneficiaries**

- Beneficiaries should be selected based on clearly defined eligibility criteria (e.g. household poverty levels, area of residence) to ensure as many intended beneficiaries receive the subsidy while minimizing leakage of benefits to unintended beneficiaries
- Existing demographic data of specific target populations should be utilized whenever possible. If unavailable or there are significant gaps in the data, effective targeting becomes very difficult



### 2. Fill the affordability gap

#### **Amount of subsidy should be based on the affordability gap**

- The value of subsidies should be pegged to the difference between the cost of the OGS product and the target group's ATP. This level shall be monitored and adjusted as needed. This requires in-depth knowledge of a target group's ability to pay, which should be covered by principle 1
- Requiring customers to contribute to subsidized products may lead to an increased sense of ownership and dignity

## We recommend the following preliminary DSS design principles for discussion (2/3)...



### 3. Extensive consultation and clear communication

**DSS should be developed through extensive consultations and then clearly communicated to ensure relevant stakeholders and beneficiaries are aligned**

- All stakeholders (public, private, beneficiaries) should be consulted throughout the design process to improve collaboration and buy-in during implementation
- Extensive communication is critical to ensure stakeholders (particularly beneficiaries) are aware of subsidy goals, intended beneficiaries, and program logistics (e.g. purchasing, payment processes, customer care & after-sales support). Stakeholders should be aware of the interdependence of their roles and the risk of delays due to any underperforming stakeholder



### 4. Verification and accountability

**Verification should be carefully structured to ensure that the program reaches its target beneficiaries**

- Verification mechanisms should be designed to ensure that the right beneficiaries receive the right products that meet quality standards and specification requirements (e.g. minimum service level requirements)
- Well-designed verification mechanisms should leverage the best available data and be implemented to increase program accountability to ensure that the DSS program is maximizing its reach and achieving the stated objectives



## We recommend the following preliminary DSS design principles for discussion (3/3)...



### 5. Efficient processes

**Processes should be efficient to maximize value for money for government and development partners**

- DSS programs should leverage existing welfare programs and government electrification strategies if possible. Particularly, if eligibility criteria between different subsidy schemes can be harmonized or leveraged, the costs of conducting socio-economic assessments can be shared across several schemes
- DSS programs can also greatly benefit from leveraging existing payment systems from other programs. Where such programs cannot be leveraged, expectations should be managed to ensure that enough time is spent upfront to carefully design payment processes as well as building consumer capacity. This is particularly relevant where target populations have low financial and mobile literacy

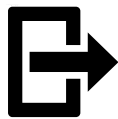


### 6. Transparent processes

**Processes should be transparent to promote accountability**

- Processes such as beneficiary selection, supplier selection and payments must be fair, transparent, and linked to results to avoid market-distorting effects like actual or perceived bias, or in extreme cases, misuse of funds
- Robust M&E processes, including independent audits, should be utilized to enhance accountability

## We recommend the following preliminary DSS design principles for discussion (3/3)...



### 7. Market sustainability

#### **DSS should be deployed as a last resort and with an aim to stimulate commercial markets**

- Countries should begin by stimulating markets through SSS. DSS should then be deployed when such interventions are ineffective in providing energy to vulnerable populations or areas where there is no commercial interest and a high affordability gap
- Even when deployed, an objective of DSS programs should be to crowd-in commercial players. They should be designed in a way that compliments local business models and stimulates interest in entering underserved regions
- Programs should include a clear exit strategy where possible to ensure a sustainable market post-subsidy. However, it is important to note that in the OGS context, many households may never be able to participate in a commercial market and an exit strategy may not be possible. This needs to be identified as early as possible and factored into a program's design

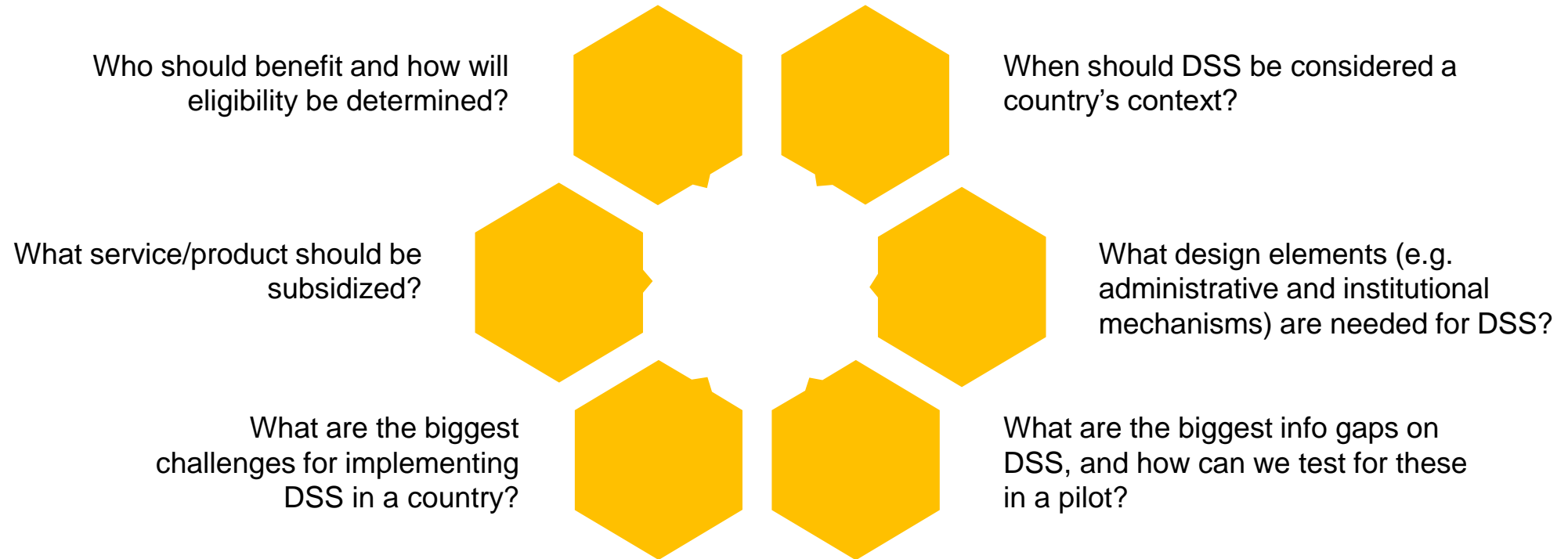


### 8. Capacity building

#### **Programs should budget time and resources to build capacity at all levels (beneficiaries, public sector and private sector)**

- Stakeholders should ensure capacity building is built into program designs, especially where technical expertise is required to effectively implement the program's objectives
- Budgetary allocations should be made where necessary to cater for costs arising from capacity building exercises during the implementation of DSS

## We look forward to the event in Nairobi and to together answering several key questions on DSS for off-grid energy



## Get in touch with ACE TAF



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Africa Clean Energy Technical Assistance Facility



**THANK YOU**

