

COUNTRY CASE STUDY

MID-TERM EVALUATION OF THE UNFPA SUPPLIES PROGRAMME

(2013-2016)

THE SUDAN

EVALUATION OFFICE

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Mid-Term Evaluation of the UNFPA Supplies Programme (2013-2016)

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TABLE OF CONTENTS

List of Tables

List of Figures

ABBREVIATIONS AND ACRONYMS

AMC	Army Medical Corps
ART	Anti-retro Viral Therapy
AW	All women
CAHP	Council for Allied Health Professions
CCS	Chamber of Civil Service
CERF	Central Emergency Resource Fund
CMS	Central Medical Stores
CO	Country Office
CPAP	Country Programme Assistance Plan
CPD	Continuing Professional Development
CSB	Commodity Security Branch, Technical Division, UNFPA
CSW	Commercial Sex Worker
CYP	Couple Years Protection
DFID	UK Department for International Development
eLMIS	Electronic Logistics Management Information System
EmONC	Emergency Obstetric and Newborn Care
FGM	Female Genital Mutilation
FMoH	Federal Ministry of Health
GFF	Global Financing Facility
GPRHCS	Global Programme for Reproductive Health Security
GoS	Government of Sudan
HRH	Human Resources for Health
H4+JPCS	H4+ Joint Programme Canada Sweden (Sida)
IDPs	Internally Displaced People
INGO	International Non-Governmental Organizations
IPPF	International Planned Parenthood Fund
IU	International Unit
IUD	Intrauterine Device
IV	Intravenous
KAP	Knowledge Attitude Practice
LMIS	Logistics Management Information System
mCPR	Contraceptive Prevalence Rate, modern methods
MISP	Minimum Initial Service Package
MNCH	Maternal, Newborn, and Child Health
MoF	Ministry of Finance
MoH	Ministry of Health
MoHE	Ministry of Higher Education
MSF	Médecins sans Frontières
MSM	Men who have Sex with Men
MVA	Manual Vacuum Aspiration
MW	Married women
NCT	National Council for Training
NMSF	National Medical Supplies Fund
NGO	Non-Governmental Organisation
OCHA	Office for the Coordination of Humanitarian Affairs
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
PSB	Procurement Services Branch (of UNFPA)
PSM	Procurement and Supply Management
RH	Reproductive Health
RH/FP	Reproductive Health/Family Planning

RHCS	Reproductive Health Commodity Security
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
SCM	Supply Chain Management
SDP	Service Delivery Point
SDU	Sudan Doctors Union
SEED	Supply, Enabling Environment and Demand
SFPA	Sudan Family Planning Association
SHSPTU	Professions Trade Union
SMC	Sudan Medical Council
SMoH	State Ministry of Health
SMSB	Sudan Medical Specialization Board
SMSF	State Medical Supplies Fund (sometimes State MSF)
SPF	Sudan Pooled Fund
SRH	Sexual and Reproductive Health
STA	Sudanese Technicians Associations
STI	Sexually Transmitted Affairs
The Global Fund	Global Fund for the fight against Aids, TB and Malaria
UN	United Nations
UNFPA	United Nations Population Fund
UNFPA Supplies	UNFPA Supplies Programme
USAID	United States Agency for International Development
WHO	World Health Organisation

GLOSSARY OF MEDICAL TERMS

BEmONC	Basic emergency obstetric and newborn care (BEmONC) is defined as seven essential medical interventions, or 'signal functions', that treat the major causes of maternal and newborn morbidity and mortality and should be available as close to the community as possible. These signal functions include antibiotics to prevent puerperal infection; anticonvulsants for treatment of eclampsia and preeclampsia; uterotonic drugs (e.g., oxytoxics) administered for postpartum haemorrhage; manual removal of the placenta; assisted vaginal delivery; removal of retained products of conception; and neonatal resuscitation.
CEmONC	Comprehensive emergency obstetric and newborn care (CEmONC) includes all the signal functions of BEmONC plus blood transfusions, surgery (e.g., caesarean section), and advanced neonatal resuscitation. The skills, equipment and conditions for these functions should be made available at the referral level such as a district hospital.
EmONC	Emergency obstetric and neonatal care is a package of services provided to the mother-baby couple that includes urgent services to prevent maternal death (e.g. access to essential pharmaceuticals, including antibiotics, anticonvulsants, and uterotonics) and life saving measures for newborns (e.g. clean cord care and neonatal resuscitation).
Fistula	Fistula is a hole between the vagina and rectum or bladder that is caused by injury, leaving a woman incontinent of urine or faeces or both. It requires a surgical repair. Obstetric fistula is a childbirth injury caused by prolonged or obstructed labour.
Infant mortality	The death of a child between one and twelve completed months of life.
Magnesium Sulphate	Magnesium sulphate is used to prevent seizures in a woman with moderate to severe preeclampsia. It is also used to stop seizures (eclampsia) when they are occurring. When magnesium sulphate is used during labour and delivery, it is usually continued for at least 24 hours after delivery. Magnesium sulphate is

	given intravenously or by injection. It is stable at room temperature and does not need refrigeration.
Maternal death	The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental causes.
MDSR/ MNDSR	Maternal Death Surveillance and Response/ Maternal and Neonatal Death Surveillance and Response: A continuous action and surveillance cycle of identification, quantification, notification and review of maternal deaths followed by the interpretation of the aggregated information on the findings and the avoidability of the maternal deaths which is used for the recommended actions that will prevent future deaths. The primary goal of MDSR/ MNDSR is reducing future preventable maternal (and neonatal) deaths.
Misoprostol	A uterotonic medicine used to induce the uterus to contract and thus to control post-partum haemorrhage or initiate labour. Misoprostol is on the WHO Essential Medicines List and comes in tablet form. It has a long shelf life and is stable at room temperature (so does not need refrigeration).
Neonatal death	The death of an infant during the first month of life.
Oxytocin	A uterotonic medicine given to a woman to cause contraction of the uterus. It may be given to start or increase the speed of labour, and/or to stop bleeding following delivery. Oxytocin is given through injection or intravenously. It requires refrigeration and cannot (currently) be stored at room temperature.
Perinatal death	The perinatal period commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth. Perinatal mortality refers to the number of stillbirths and deaths in the first week of life (early neonatal mortality).
Stillbirth	Stillbirth is the death of foetus before birth. A macerated stillbirth is one where the foetus has died in utero some hours or days before the delivery. Fresh stillbirths are those where the foetus was alive going into labour but died in the course of the delivery. Both types of stillbirth are largely preventable. Numbering about 2.5 million annually across the world, stillbirths have only recently begun to be counted systematically and data is difficult to interpret as a result. A declining number of stillbirths is the direct result of better maternity care (both antenatal and during delivery).

1 INTRODUCTION

This note presents the results of the field country case study of Sudan, undertaken for the mid-term evaluation of the UNFPA Supplies programme (referred to as UNFPA Supplies). It is one of four field country case studies carried out during the evaluation (the Lao People's Democratic Republic, Nigeria, Sierra Leone and Sudan). Another five of the 46 countries in which UNFPA Supplies operates were covered by desk-based country case studies (Haiti, Madagascar, Malawi, Nepal and Togo).

1.1 The mid-term evaluation of UNFPA Supplies

The purpose of the mid-term evaluation of UNFPA Supplies is to assess the progress made in implementing the programme since 2013. The objectives of the evaluation are to provide an independent and valid assessment of:

- The relevance and approach of UNFPA Supplies
- Results achieved across all output areas and movement toward national sustainability
- Gender equality, social inclusion and equity
- Coordination and synergy with partners
- The catalytic role of UNFPA Supplies.[1]

1.2 Objectives of the field-based country case studies

The country case studies aim to provide insights into the evaluation questions and a comprehensive, nuanced picture of programme actions and their results. They cover nine of the 46 programme countries of UNFPA Supplies and serve to illustrate programme results in a **wide range of contexts**. They do not form a statistically valid or representative sample of all programme countries.

Table 1: Field and Desk-Based Country Case Studies

Mid-Term Evaluation of UNFPA Supplies: Case Study Countries	
Field-Based Country Case Studies	**Desk-Based Country Case Studies**
Lao People's Democratic Republic	Haiti
Nigeria	Madagascar
Sierra Leone	Malawi
Sudan	Nepal
	Togo

The specific purpose of the field-based country case studies is to allow the evaluation to explore the final evaluation questions in greater depth than would be possible in desk studies.

[1] Evaluation Office, UNFPA. *Mid-term Evaluation of the UNFPA Supplies Programme (2013-2020): Terms of Reference,* October, 2016. p. 9. https://www.unfpa.org/sites/default/files/admin-resource/ToR_Mid_Term_evaluation_of_UNFPA_SUPPLIES_2013-2020_F_I_N_A_L.pdf

Box 1: Evaluation Questions

Evaluation Questions
1. **To what extent has UNFPA Supplies contributed to creating and strengthening an enabling environment for RHCS/FP at global, regional and national level?**
2. **To what extent has UNFPA Supplies contributed to increasing demand for reproductive health and family planning commodities and services, including demand by poor and marginalized women and girls in keeping with their needs and choices (including in humanitarian situations)?**
3. **To what extent has UNFPA Supplies, through its global operations and advocacy interventions, contributed to improving the efficiency of the procurement and supply of reproductive health and family planning commodities for the 46 target countries?**
4. **To what extent has UNFPA Supplies contributed to improved security of supply, availability and accessibility of reproductive health and family planning commodities and services in programme countries, especially for poor and marginalized women and girls, in keeping with their needs and choices, including in humanitarian situations?**
5. **To what extent has UNFPA Supplies contributed to improving systems and strengthening capacity for supply chain management for reproductive health and family planning commodities in programme countries?**
6. **To what extent have the governance structures (UNFPA Supplies Steering Committee) management systems and internal coordination mechanisms of UNFPA Supplies contributed to overall programme performance?**
7. **To what extent has UNFPA Supplies played a catalytic role by leveraging increased investment by other actors and supplementing existing programmes in RH/FP at global, regional and national levels?** [2]

The country case studies are not individual programme evaluations at country level. They:

- Provide input for answering the evaluation questions and assumptions for verification
- Triangulate data collected from other sources and respondents with qualitative and quantitative information collected in country
- Identify lessons learned.

The evaluation also used other methods, including an online survey of key stakeholders, interviews undertaken at global and regional level and a comprehensive global document and data review to ensure coverage of all UNFPA Supplies programme countries.

1.3 Approach and methodology

Each field country case study uses a theory-based evaluation approach which builds on the theory of change and key causal assumptions developed for the UNFPA Supplies programme described in detail in the Inception Report of the mid-term evaluation.[3]

[2] Evaluation questions and related key causal assumptions are provided in the *Inception Report of the Mid-Term Evaluation of UNFPA Supplies*: UNFPA, September 2017. The report is available at: https://www.unfpa.org/sites/default/files/admin-resource/UNFPA_Supplies_Mid-Term_Evaluation_-_Draft_INCEPTION_REPORT_Volume_1_-_121017.pdf

[3] UNFPA, 2017. *Inception Report*: p. 31-40.

These assumptions (Annex 1), when tested using contribution analysis, allow each evaluation question to be addressed and, ultimately, provide the basis for assessing the contribution of UNFPA Supplies to outcomes in Reproductive Health and Family Planning in Sudan.[4]
The main data collection methods used in each field country case study are:

- Identification and review of core documents at country level including: annual workplans; results frameworks and results reports; minutes of planning, review and steering committee meetings; programme review and evaluation documents; monitoring mission reports, national plans and programmes in family planning and Reproductive Health Commodity Security (RHCS); and reports and documents produced by other bilateral and multilateral agencies supporting RH/FP
- Review and profiling of quantitative data, including financial data on programme investments and data on availability and use of family planning commodities
- Key informant interviews with a wide range of stakeholders at national level (Annex 3)
- Site visits at district and local levels including: interviews and discussions with provincial and district health teams and group and individual interviews with staff of district hospitals, rural health centres and health posts, and static and mobile health clinics
- Interviews with staff of warehouses and medical stores facilities at national and district level and observation of conditions for storage, monitoring and distribution of RH/FP commodities at national, provincial, district and local levels
- Focus group discussions and group interviews with girls and young women accessing RH/FP services and using commodities supported by UNFPA Supplies
- Debriefings of key informants at national level in order to present preliminary findings and receive feedback on any gaps in the data used, and on factual errors or misinterpretation of the available data.

In each field country case study, the draft field country case study note was submitted to the UNFPA Supplies team in the Country Office (CO) for review and comments prior to submission to the Evaluation Office.

1.4 Carrying out the Sudan field country case study

1.4.1 Data collection activities

The country case study mission was carried out by a team of two evaluators working in Sudan from October 15 to 26 2017.

Document reviews
The case study mission was preceded by a review of relevant documents provided by the Sudan CO. These were supplemented by documents gathered during the case study mission from key informants interviewed. For a list of documents referred to during the case study see Annex 4.

Key Informant interviews
The case study team carried out extensive interviews with key stakeholders for UNFPA Supplies in Sudan. These included:

- The UNFPA Supplies team, including technical advisors (maternal health, gender, humanitarian, HIV and AIDS), and the UNFPA Country Representative and deputy representative in the UNFPA CO

[4] For a full discussion of the analytical approach and methodology used in mid-term evaluation see the *Inception Report,* Chapters Three and Four.

- Senior managers at the Federal Ministry of Health (MoH) in Khartoum, including the reproductive health programme and the director for family health
- Staff of the National Medical Supplies Fund (NMSF) and warehouse controllers
- Staff at the Khartoum State Ministry of Health
- Senior staff of the Sudan Family Planning Association (SFPA) and other implementing partners
- Staff of development partners supporting the health sector in general and reproductive health and maternal health programming in particular (WHO)
- Staff in the North Darfur State Ministry of Health, UNFPA field staff, state Medical Supplies Fund, commodities warehouses, international non-government organizations and other health partners
- Staff in the Kassala State Ministry of Health, UNFPA field staff, state Medical Supplies Fund, commodities warehouses, and other health partners including the NGO Jasmar
- Staff of the national maternity referral hospital in Omdurman and the state maternity hospitals in Al Fasher and Kassala
- Staff at fixed primary health clinics in Khartoum, Darfur (Abu Shouk Refugee Camp) and Kassala
- Selected, informal interviews with women attending mobile and static health facilities.

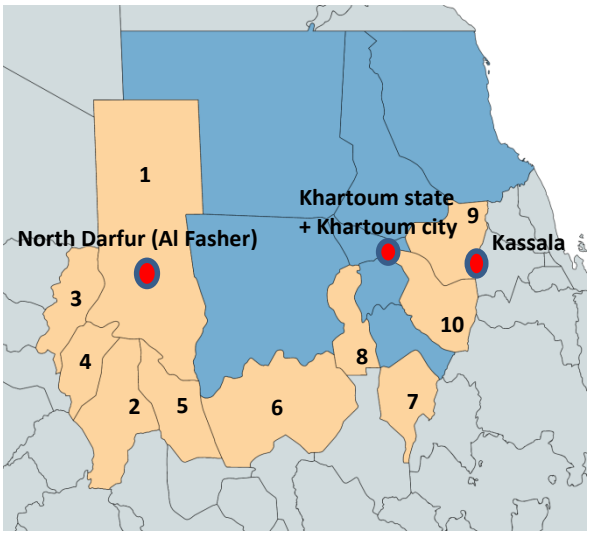
Site Visits

The case study included site visits and observations (along with key informant interviews and group discussions) at a range of facilities relevant to the operation and effectiveness of UNFPA Supplies. These included:

- National Medical Supplies Fund warehouses in Khartoum, North Darfur and Kassala, and Reproductive Health commodity stores in the three hospitals visited as well as at the state MoH in Kassala and North Darfur. Stores in individual hospitals and clinics were also inspected
- At total of seven service delivery points (hospitals and primary health facilities) in three states.

During visits to health facilities, the case study team interviewed service providers and clients and observed procedures and choice of methods for family planning. They also followed up on maternal health protocols where appropriate and identified how deliveries were managed, particularly complications at birth. They observed and photographed facilities and processes for storing, stock control, and ordering of reproductive health and life-saving commodities, including facilities for maintaining the cold-chain for oxytocin.

Figure 1: Map of the Sudan showing the regions visited by the evaluation team and the states where UNFPA delivers additional programme support.



States where UNFPA is active **States where UNFPA is not active** **Sites visited by the evaluators**

1. North Darfur
2. South Darfur
3. West Darfur
4. Central Darfur
5. East Darfur
6. South Khordofan
7. Blue Nile
8. White Nile
9. Kassala
10. Kadaref

1.4.2 Limitations

While data collection activities were intensive and the evaluation team were able to access all the key informants they had identified in advance, the sample of key informants interviewed and facilities visited was, necessarily, limited. This is especially true in light of the very large network of health facilities in Sudan. In 2016, UNFPA Supplies reported that modern contraceptive methods were supplied to over 2,700 (out of 5,500) health facilities across the country.

The case study findings presented in section 3 distinguish wherever appropriate between contributions made directly by the UNFPA Supplies programme and those that arise from working in combination with other sources of support, both financial and technical. The role of other sources of support is more significant in relation to the provision of life-saving commodities than contraceptives in Sudan.

None of the limitations noted undermine the validity of the findings reported in section 4.

The field-based country case study of UNFPA Supplies in Sudan is intended to serve as one element in the larger Mid-Term Evaluation of UNFPA Supplies. It is not intended to serve as an evaluation of the programme in one country.

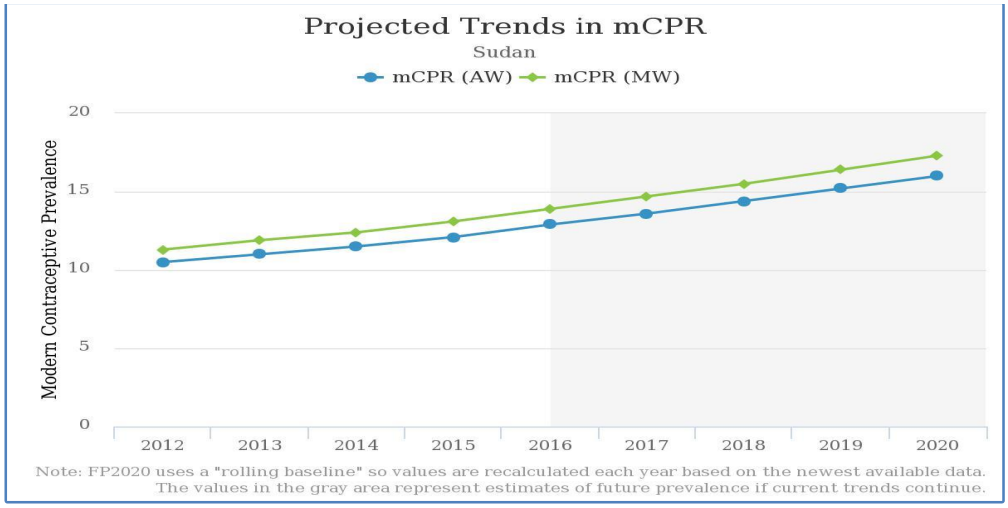
2 COUNTRY CONTEXT AND PROGRAMME RESPONSE

2.1 Demand, supply and unmet need for family planning in the Sudan

2.1.1 Trends in contraceptive prevalence and demand

Sudan is a large, geographically diverse country with an estimated population of 40,235,000 growing at 2.6 percent each year. It has a relatively youthful population, about 41 percent of whom are under age 15.[5] More than two thirds live in rural areas and many are nomadic. Forty-five percent of the economy is derived from agriculture.[6] On its web-site (Track 20), Family Planning 2020 estimated that the current contraceptive prevalence rate for the use of modern methods (mCPR) among all women in Sudan was 11 percent at the end of 2016. The Track20 model estimates that mCPR has improved moderately in the four years from 2013 to 2016 and is on a track which would take it to about 16 percent by the end of 2020. The 2014 Multiple Indicator Cluster Survey (published in 2015) suggested that the mCPR was 12 percent in 2014 and across Sudan that is the figure commonly used.

Figure 2: Past and projected modern method CPR for all women: the Sudan



Source: FP 2020: Track 20[7]

Although it reflected only a moderate pace of growth, the 12 percent figure was greeted with some relief in Sudan as it marked the first upward shift in mCPR for many years. The rate had been stagnant at seven to nine percent since at least 2005. Building on this growth, Sudan aims to reach 16 percent mCPR by 2020.[8]

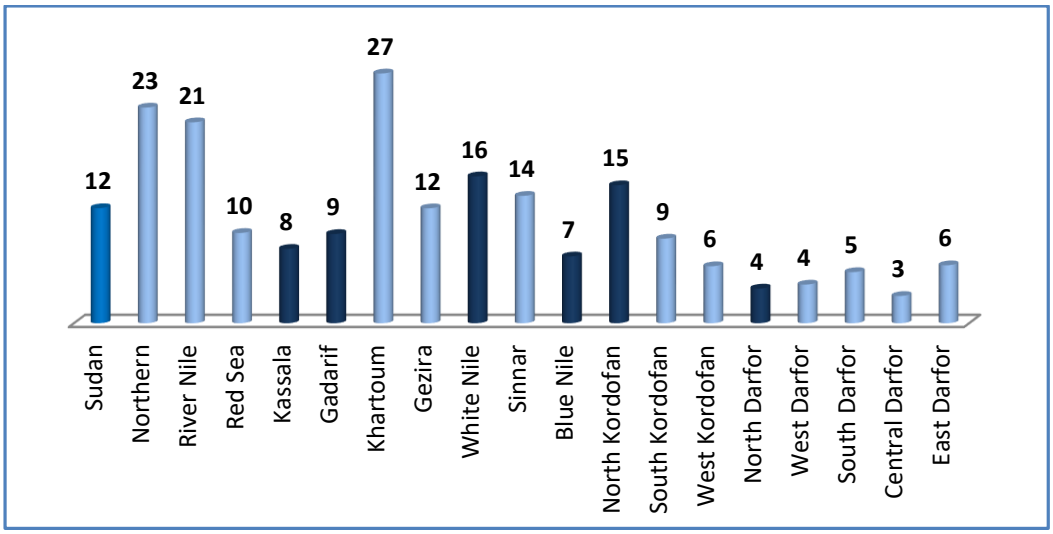
The unmet need for family planning in Sudan has remained more or less constant at about 29 percent in the 2013 to 2016 period. However, there has been an improvement in the percent of women whose demand for modern methods has been met from 28 percent in 2013 to 32 percent in 2016.

The eighteen states in Sudan show a wide variance in terms of family planning uptake. UNFPA Supplies funds provide and support commodity distribution to all states across the whole country. However, programme activities have been focused on six states since 2008. Five of these are Kassala, Gaderef, White Nile, Blue Nile and South Khordofan (marked in dark blue in Figure 2). After the division of Sudan, Darfur was divided into five states. The UNFPA office is based in Al Fasher in

[5] World Bank data bank: https://data.worldbank.org/indicator/SP.POP.0014.TO.ZS
[6] See: http://data.un.org/CountryProfile.aspx?crName=Sudan
[7] Accessible at: http://www.track20.org/pages/countries_country_page.php?code=SD
[8] Government of Sudan: *Interview with Director of Family Health Services, October 19, 2017.*

North Darfur and its activities are focused on North Darfur but it also supports targeted activities in the other Darfurs (for example, fistula repair camps and humanitarian interventions). All the five Darfur states have very low mCPR rates indicating the low level of service delivery available to marginalised people. UNFPA support comes from different funding streams, including some from UNFPA Supplies although this has diminished over time. This is discussed again in sections 2.1.3 and 4.8.

Figure 3: Contraceptive use in the Sudan by State, 2015*



Source: Knowledge, attitude, practice survey, MoH, Sudan 2015.
**In this graphic, the state of Jazera is translated from the Arabic as Gezira.*

Low contraceptive prevalence is one of a number of factors underpinning Sudan's stubbornly high maternal mortality ratio. Although some progress has been made reducing maternal mortality, the ratio remains high at 360 maternal deaths per 100,000 live births. Four out of five babies are still delivered at home, many with the assistance of community midwives but a large proportion without skilled birth attendants of any kind. Relatively few women attend the hospital to deliver. Women in Sudan start having babies young – often in their adolescence – and continue indefinitely; the fertility rate is 4.3 per woman.[9] The main causes of maternal death are post-partum haemorrhage (24 percent), sepsis (11 percent), hypertension (11 percent), hepatitis (15 percent), anaemia (seven percent) and indirect causes (24 percent).[10]

Table 2: Prevalence of FGM in the Sudan

Female Genital Mutilation in Sudan: Tackling an entrenched social norm	
Age group	Prevalence
All women and girls	88%
Ages 0-14	32%
All ages 15 – 49	87%
There is evidence that FGM is declining, however, and girls today are 21% less likely to be cut.	
0-14 (adjusted for future risk of cutting)	66%
30-34	88%
45-49	92%

Source: http://www.unfpa.org/sites/default/files/pub-pdf/UNFPA_UNICEF_FGM_16_Report_web.pdf

[9] Countdown to 2030, Sudan data page: www.countdown2030.org
[10] Countdown to 2030, Sudan data page: www.countdown2030.org

The high rate of post-partum haemorrhage is particularly associated with low access to health services as well as a range of social and cultural factors including the prevalence of child marriage and female genital mutilation (FGM). Sudan is one of eight countries where FGM affects more than 80 percent of the female population. Unlike in many settings however, many Sudanese women are cut as they approach adulthood in preparation for marriage.

Despite the small overall increase in mCPR, most stakeholders interviewed in Sudan (see section 4.2) held a strong belief that demand for family planning services and commodities has been on the increase in recent years and that growing interest in birth spacing was a particularly important development. The fact that it has been so difficult to affect patterns of family planning uptake was a cause of concern among health professionals who were aware of how important it was to broader health outcomes for women and children. Although the contraceptive pill was the method most often used, especially in rural areas where in fact it was often the only available method, there is increasing demand for longer lasting methods, especially implants.

Sudan has experienced a range of political, economic and other complications over the last two decades (see section 2.1.3) driven primarily by conflict and creating, among other impacts, a number of humanitarian crises. The sanctions imposed on the country since 1997 (renewed in 2007) have had both expected and unexpected impacts. Economic challenges, difficulty accessing foreign currency and a constant brain drain, mainly to the Gulf States, have made it more difficult to resource the health sector fully. In addition, it made some specific commodities difficult to obtain. For example, the injectable contraceptive *Depo Provera* could not be imported into or sold to Sudan until the relevant sanctions were lifted in 2015 (according to the NMSF).

2.1.2 Institutional arrangements

The health sector in Sudan is a devolved system largely decentralised to the State level. Table 3 identifies the mandates of different levels of health authorities in Sudan.

The health sector is arranged across four levels of care: tertiary, secondary, primary and community level. The health care delivery system consists of more than 5,500 health facilities comprising 2,729 primary health care (PHC) units, including 1442 dressing stations, 1468 dispensaries and 673 health centres. There are, in addition, 230 hospitals, 44 tertiary level teaching hospitals, 13 universities with medical and health science facilities, and 250 teaching establishments for allied health services. Despite a growing private sector, particularly in urban areas, the health sector in Sudan is dominated by government-owned and operated services.

As in many environments, staffing is constrained and doctors in particular, who often receive salaries of around 250 USD/month in Sudan, often find employment in the Gulf States.

Table 3: Institutional mandates in the health system, the Sudan

Federal level	18 States	Localities (4 to 15 per state)
• Formulation of national policies, plans and strategies • Resource mobilization; • Overall monitoring and evaluation • Coordination, supervision, training • External relations • Decentralised public expenditure management.	• Formulation of State policies, plans and strategies according to federal guidelines, funding and implementation of plans • Makes autonomous decisions about the arrangement of health services • May operate state level health funding schemes independently of the federal level.	• Implementation of national/state policies and service delivery based on the PHC approach • Responsible for the arrangement and delivery of services at the primary and community level • Training and management of health professionals at the primary and community levels.

Table 4 illustrates the range of organizations involved in Human Resources for Health (HRH) management. Many ministries and organizations of government have interests in health worker selection, training, deployment and management. One critical bridge, for example, is the decentralized responsibility for most health workers to state level which introduces significant scope for variability in the number and mix of health staff availability, their management and supervision, and the investment made in quality assurance and performance monitoring.

Table 4: Organisational control over and responsibility for human resources for health in the Sudan

Stakeholder	Current role in HRH
Federal Ministry of Health (FMoH)	- HRH policy and planning - HRH mass training and funding - Training paramedics - HRH management - HRH data and information
State Ministries of Health (SMoHs)	- HRH policy and planning at the State level and within the framework of National policy - HRH training (availability varies from State to State) - Training paramedics - HRH management down to the locality of staff, including deployment of staff to locality health facilities - HRH data and information collection and storage
Ministry of Higher Education (MoHE)	- Policies on production of HRH - Licensing, monitoring and supervision of medical and health training institutions - Teaching staff development and training - Data and information on admissions, enrolment, graduates and staff
Ministry of Labour (MoL), Chamber of Civil Service (CCS), National Council for Training (NCT)	- Employment and conditions of service for health staff - Salary structure and promotion of health workers - Approval and funding of health workforce training
Ministry of Finance (MoF)	- Provision of salaries for public sector staff - Regulating the range of incentives for health staff - Funding the allowances and incentive packages for staff placement
Sudan Medical Council (SMC)	- Licensing and registration of physicians, dentists and pharmacists - Accreditation of medical, dental and pharmacy schools - Ensuring safety of practice by doctors and dealing with related public complaints

Stakeholder	Current role in HRH
Council for Allied Health Professions (CAHP)	- Licensing and registration of nurses, technicians and paramedical staff
Sudan Medical Specialization Board (SMSB)	- Postgraduate training for doctors, dentists and pharmacists - CPD for doctors
Army Medical Corps (AMC)	- Employment of HRH on military terms - Planning, distribution, management and training of affiliated staff
Police Health Services	- Employment of HRH on Police forces terms - Planning, distribution, management and training of affiliated staff - Provision of basic medical and health cadre education
Health Insurance Fund	- Top-ups for health staff providing insurance services - Employment and management of some staff categories
Sudan Doctors Union (SDU)	- Professional development for doctors (conferences, etc.) - Support for doctors in conditions of work and some general services
Sudan Health and Social	- Conditions of services and trade union activities for all health
Professions Trade Union (SHSPTU)	- Workers (with a focus on nursing and paramedics)
Sudanese Technicians Association (STA)	- Professional development of technical staff - Condition of work and scope of practice for technicians
Private sector	- Production of HRH (basic and postgraduate training) - Employment and management of staff - Salary top ups for public sector staff working on part-time basis
International agencies and donors	- Technical support in HRH policy and management - Training and CPD chances - Salary top ups for public sector staff

Source: *National Human Resources for Health, Strategic Plan for Sudan*, 2012-2016, Directorate General of Human Resources for Health Development, FMoH, Government of Sudan, 2012.

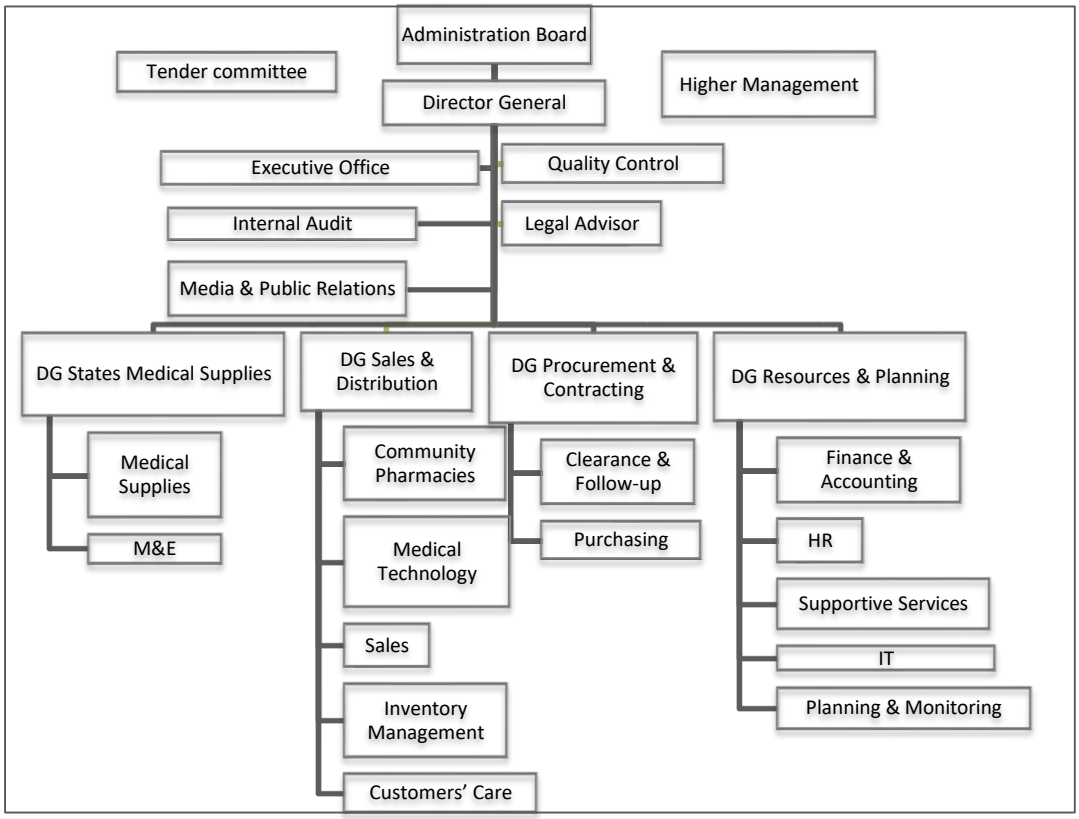
Institutional structures for supply chain management

The health commodity supply chain in Sudan is almost entirely managed by NMSF, a parastatal organisation created in 2015. Its predecessor, the Central Medical Stores department was established in 1935 and underwent many stages of development such that, by 2000, Sudan had a proliferation of separate supply chains each linked to different vertical programmes. A new system was established by a 2014 Act of Parliament (the Medical Supplies Fund Act). The act led to the creation of an autonomous public organisation with more than 400 employees which in its first year had a turnover of 215 million USD. More than 33 million USD was invested in infrastructure (modern warehouses, trucks and delivery vehicles), systems (for procurement, stock management, and monitoring), and medical supplies and commodities. Support for the establishment of the NMSF was provided by the Global Fund and other sources including commercial bank loans.

NMSF was established following an analysis of the supply chain which identified numerous blockages and risks to supply security including: (1) supply risks related to sanctions, forex challenges, registration barriers for individual commodities; (2) individual/ parallel arrangements managed by donors, different government agencies and departments etc. which led to inefficiencies, duplication, expired drugs and stock outs ; (3) poor dispensing and prescribing practices compounded by patient education failures and harmful practices so that commodities finally available at the health centre were not being used to maximum effect.

Since 2015, NMSF has thus been responsible for procurement, quality assurance, storage and distribution of commodities (both cost recovery and free commodities). Commodities donated to or procured by vertical programmes – including the Global Fund, Gavi and, since mid-2016, the UNFPA Supplies commodities - have been integrated into the NMSF system, with the payment of a management fee. Figure 4 shows the structure of the NMSF at the national level.

Figure 4: The organisational structure of NMSF



In 16 of the 18 states in Sudan, medicines and commodities are distributed in two different ways. The majority of the commodities are distributed using a *"cost recovery"* system. States order commodities from the national NMSF and, in a separate action, payment is made by states to the NMSF at a later date. Cost recovery medicines are sold in pharmacies and at hospitals and health centres. Prices are not related to cost price and have been set to smooth out the costs between different types of medicines. The second system is the *"free medicines"* programme. Free medicines are distributed for children under five, emergencies (the first 24 hours), deliveries, blood transfusions and a limited range of other conditions. Donated medicines are added to the free medicines system (anti-retrovirals, vaccinations, family planning, malaria treatment procured using Global Fund resources etc.). UNFPA provides both family planning commodities and three life-saving drugs for maternity care: oxytocin, magnesium sulphate, and misoprostol.

Two states operate their own procurement systems for drugs (Khartoum and Jazera), having opted out of the national cost recovery programme. However, they receive the donated drugs and thus, for the purposes of this evaluation, the *whole of Sudan falls under a single supply chain with regard to the UNFPA Supplies supported drugs and commodities*.

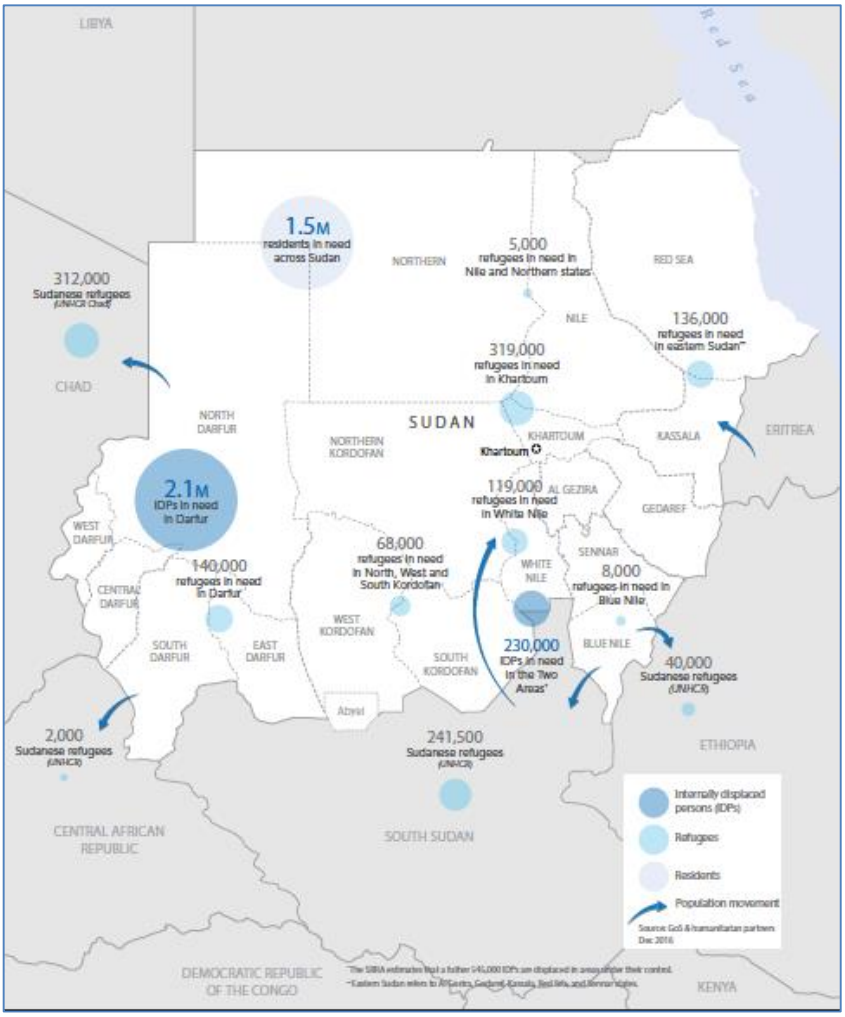
There are some limited exceptions to the NMSF system. Some UNFPA procured emergency kits which are distributed to the states and are then stored in Ministry of Health warehouses (rather than MNSF warehouses).

The full flow of commodities and the relationship between NMSF, the FMoH, external partners like UNFPA and NGO service providers is shown in figure 13 (p.27). The diagram highlights the process used to procure, distribute, fund and account for commodities as well as the most common bottlenecks identified.

2.1.3 Conflict and humanitarian crises in the Sudan

The conflict in and affecting Sudan has been on-going for decades. It might best be described as a chronic crisis with acute episodes. As of the end of 2017, 4.8 million people are thought to be in need of humanitarian assistance. That is approximately 12 percent of the population. Of these, about 4.3 million require health assistance. Populations in need of assistance are both internally displaced people (IDPs) as well as refugees from neighbouring countries (for example, since December 2013, almost 300,000 refugees have arrived from South Sudan, almost all women and children). There are more than 60 IDP camps in the Darfur region.

Figure 5: Map of the Sudan showing the distribution of the humanitarian crisis, 2017.



Source: *Sudan Humanitarian Needs Overview 2017*, published December 2016, UN OCHA, Sudan.

During the first years of the Darfur focused crisis, humanitarian aid flows, while never excessive, were sufficient to ensure basic needs were met and large-scale hunger was averted. Recently however, this has changed. *"In humanitarian assistance the overall envelop has seen a significant decrease over the recent years. Contributions to the Sudan Pooled Fund (SPF) managed by UNDP and administered by OCHA were around US$70 to US$80 million in 2012 and have come down to around US$35 million in 2016."*[11]

The Sudan government has allowed a handful of international NGOs to work in the IDP camps. National NGOs such as the Sudan Family Planning Association (SFPA) deliver services in the towns and state capitals nearby. UNFPA has focused support on many of these most vulnerable areas

[11] *Sudan Humanitarian Needs Overview 2017*, published December 2016, UN OCHA, Sudan. p.4.

including Darfur, Blue Nile, South Khordofan and Kassala. The distribution of the humanitarian crisis in Sudan is illustrated in the preceding map, taken from the 2017 Humanitarian Response Plan. Service delivery in affected areas (particularly Darfur) is provided by a combination of international non-governmental organizations (INGO), national NGOs and government providers.

The UNFPA Minimum Initial Service Package (MISP) is used to guide the introduction and delivery of basic sexual and reproductive services for women and girls at the onset of an acute crisis episode. This includes the availability of associated commodities. The links between UNFPA Supplies and the delivery of family planning and safe motherhood support in affected humanitarian areas is examined more closely in section 4.8.

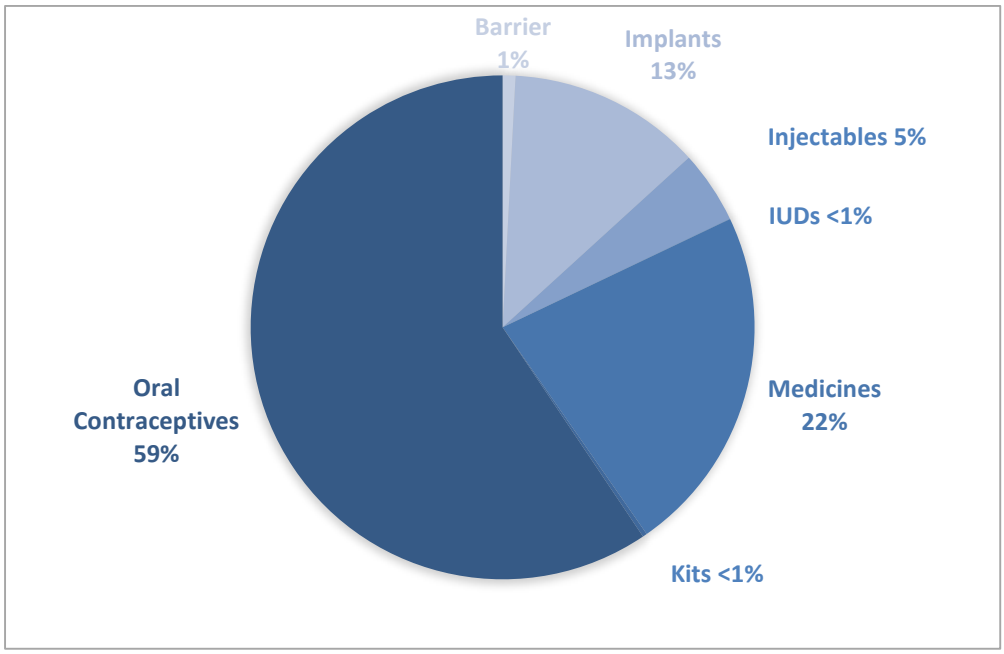
2.2 The UNFPA Supplies programme in the Sudan

2.2.1 UNFPA Supplies support to the Sudan 2013-2016

Value and range of commodities procured by UNFPA Supplies directly for Sudan, 2013 to 2016
Over the course of the 2013-2016 period, UNFPA Supplies procured and shipped directly to Sudan, a total of 8,784,834 USD worth of commodities and supplies, of which 6,450,642 USD were for contraceptives and the balance (about 2.3 million USD) were for life-saving drugs and associated supplies. The distribution of contraceptives across different methods is shown in Figure 5. Oral contraceptives account for the largest share of expenditure followed by life-saving drugs and then implants. Other contraceptive methods, including condoms, IUDs, and injectables, account for a negligible portion of spending. Kits, including emergency and humanitarian kits, were procured from other funds (see section 4.8).

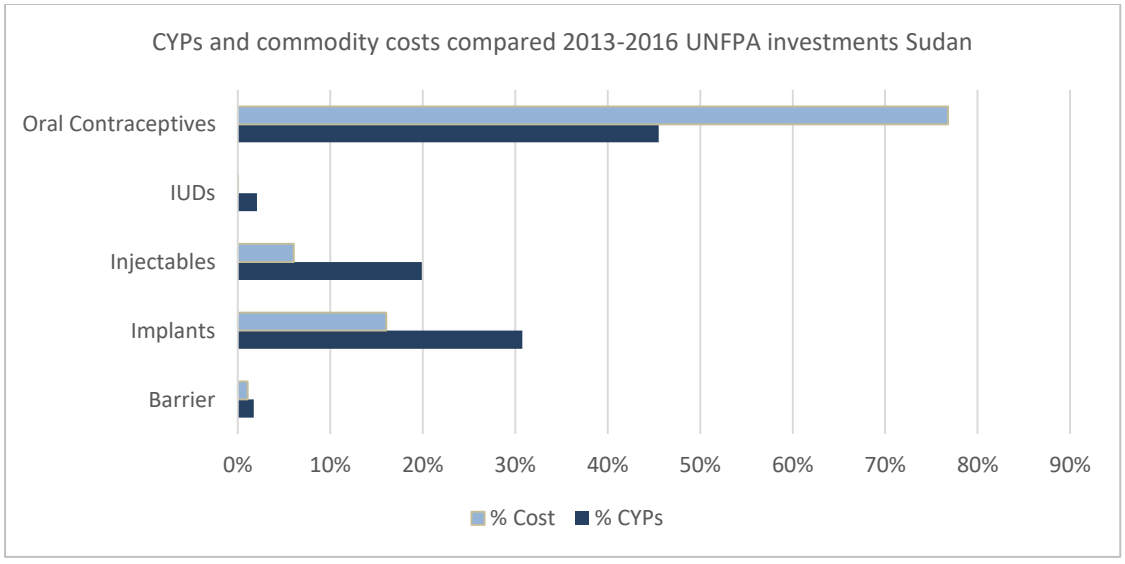
Some of these commodities were passed to implementing partners in Sudan during the four-year period. For example, in 2015, 4000 implants were given to the SFPA. What is not included in this estimate are commodities procured by UNFPA Supplies at a global level that are passed directly to global implementing partners such as Marie Stopes International or the International Planned Parenthood Federation (IPPF). Global implementing partners shipped these commodities to their own country programmes including in Sudan. Thus, SFPA, as the IPPF partner in Sudan, received most of their commodities directly from IPPF (global) until 2016 and a significant proportion was procured through UNFPA Supplies (globally). The total value of all UNFPA Supplies-funded contraceptives distributed in Sudan is therefore likely to have been more than the 6.4 million USD spent directly by the Sudan programme over the four year evaluation period. From 2017 onward, the SFPA began to receive its commodities directly from UNFPA in Sudan and the UNFPA Supplies Sudan country budget allocation was increased to just over 3 million USD to finance this transition.

Figure 6: Distribution of expenditure on commodities procured by the UNFPA Supplies programme on behalf of the Government of Sudan 2013 - 2016



Considering the contraceptives procured and shipped directly by the UNFPA Supplies programme to Sudan (not through global implementing partners), the efficiency of different commodities in relation to couple years of protection (CYP) is shown in Figure 6. The figure considers only the procurement cost of the contraceptives and not the associated costs of staff time, distribution, training and so on. It shows that almost 80 percent of funding on commodities over the four-year period was spent on oral contraceptives (both the combined and the mini pill) and yet this generated only about 45 percent of total CYP. On the other hand, implants were twice as efficient in generating CYPs accounting for 15 percent of costs and 30 percent of CYPs. The UNFPA Supplies investment in training doctors and university-trained nurses to insert implants in recent years may have been an important factor in the shift to promoting implants (discussed in section 4.4) and may have made an important contribution to the recent increase in mCPR.

Figure 7: Maximum couple years of protection from UNFPA Supplies funded commodities 2013-2016, Sudan.



In relation to the 22 percent expended on medicines – three life-saving maternal drugs (magnesium sulphate, misoprostol and oxytocin) – the division between them was, historically, largely in favour

of magnesium sulphate in terms of spending. However, once the cost per unit was calculated (Table 5), it was evident that in terms of quantity procured, oxytocin accounted for 42 percent. This difference in unit costs highlights the expense of magnesium sulphate in particular but also the relatively low cost of maternal drugs aimed at preventing post-partum haemorrhage, the largest direct cause of maternal death in Sudan (24 percent).

Table 5: Distribution of spending on life-saving drugs in the Sudan, 2013-2016

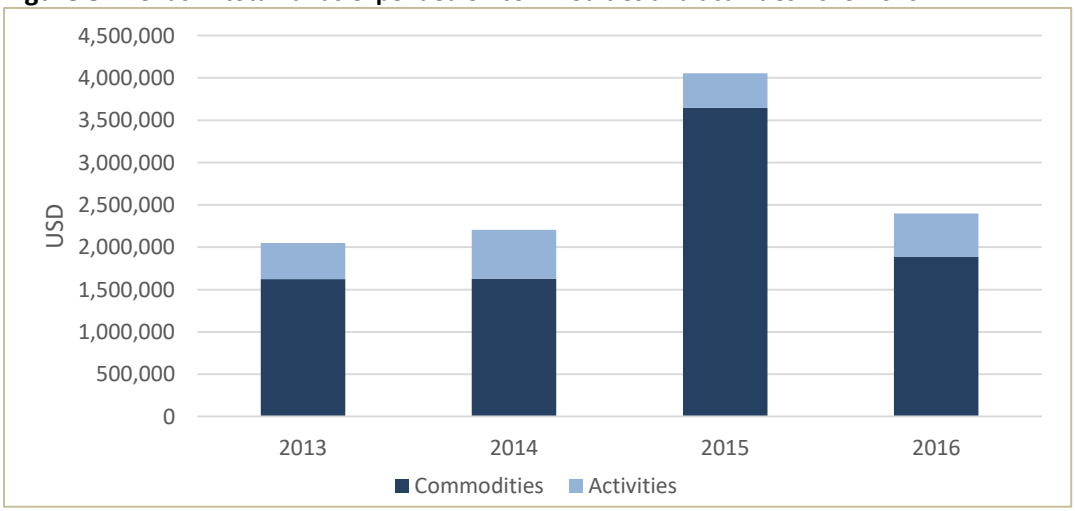
	Total spent USD	Cost per pack USD	Units per pack	Cost per unit USD	Total Units	percent distribution by unit
Magnesium Sulphate	1,463,473	12.50	10	1.25	1,170,778	34%
Misoprostol	90,000	0.45	4	0.11	800,000	24%
Oxytocin	302,273	2.12	10	0.21	1,425,815	42%
Total	1,855,745				3,396,593	

Programme output expenditure

In addition to commodities, the programme also funded a range of in-country activities aimed at supporting, for example, the demand for and access to family planning or strengthening supply chain management. Much of this activity support was concentrated heavily in 6 of the 18 states of Sudan and thus, while commodities were distributed nationally, and supply chain improvements were national to the extent they were undertaken, many of the demand creation and access activities were limited to a number of focused areas.

From 2013 through 2016, the total value of UNFPA Supplies support to Sudan was more than 10.7 million USD of which less than 20% (1,851,335 USD) was programme activity support.[12] Figure 7 shows the total spent over four years divided between programme activities and commodities. In general, expenditure on both commodities and activities was uneven over the four years, varying year to year. There was an uplift in spending in 2015 when almost half of the commodity expenditure was accounted for by a large consignment of contraceptive pills. Even taking into account the 2015 expenditure spike, 2016 represented an overall increase on 2013 and 2014 expenditure. Nonetheless, the drop in the 2016 budget was sudden and required rapid restructuring of planned activities by UNFPA and its national and implementing partners. This is discussed in section 3.6.

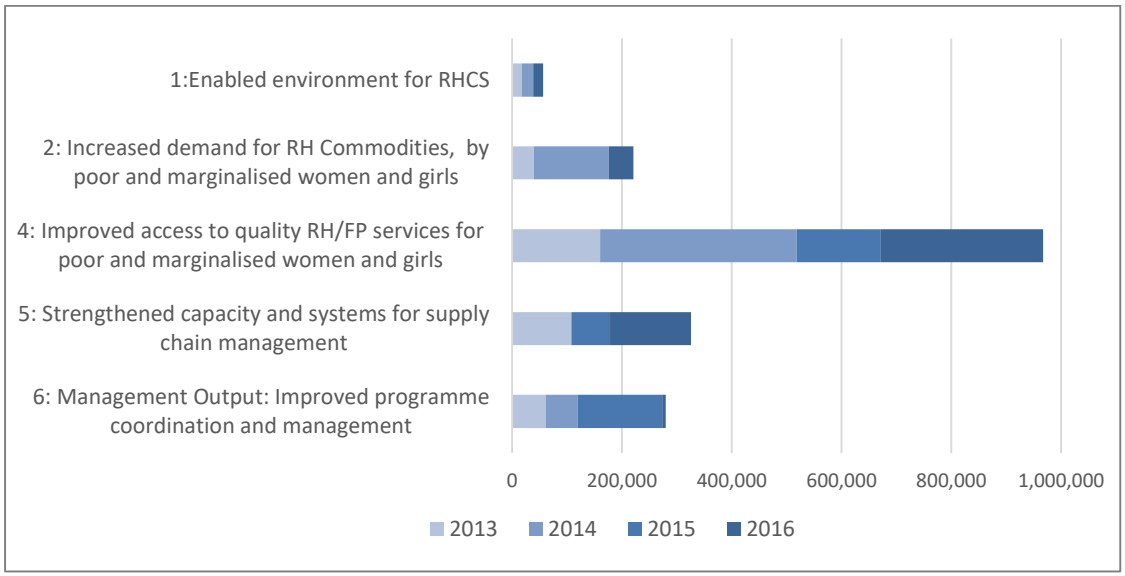
Figure 8: Trends in total funds expended on commodities and activities 2013-2016



[12] All data on the allocation of resources to UNFPA Supplies is taken from UNFPA CO for Sudan, *2013-2016 UNFPA Supplies Fund Allocations – Sudan.*

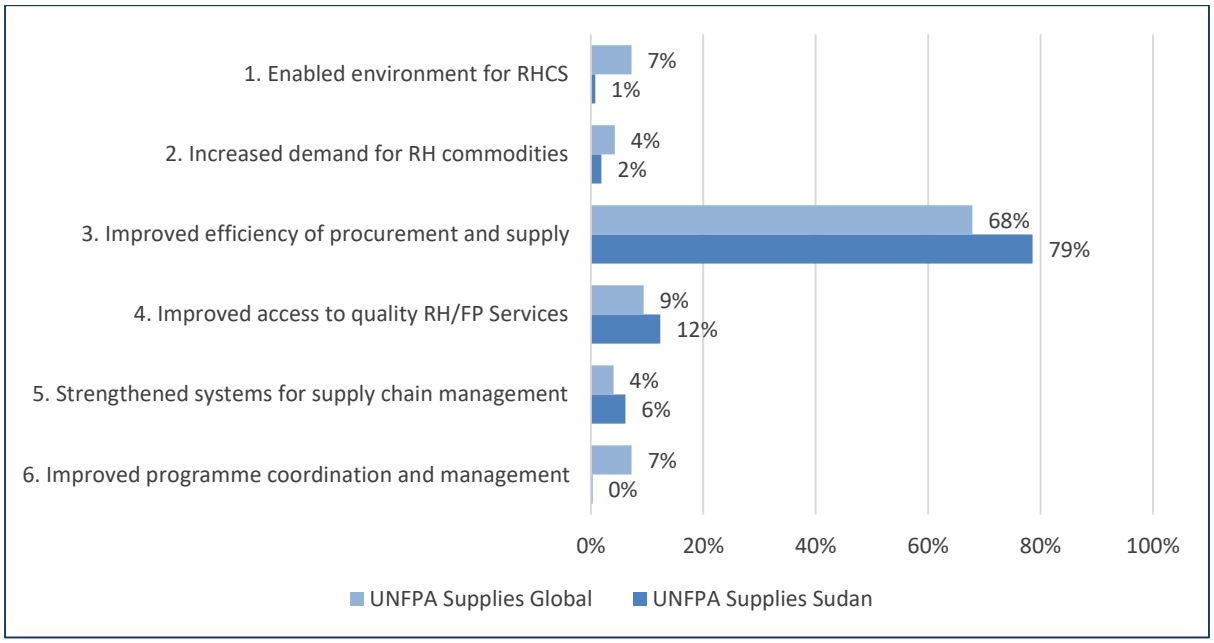
Figure 9 shows the allocation of programme activity funds across five of the six programme outputs. (Output three, not shown here, relates to the global supply chain (including commodities). The figure shows both the annual and cumulative expenditure on five of the six UNFPA Supplies programme outputs. Investments in improving access to services (output four) consumed the majority of funding. This is discussed in Chapter 3 below especially in relation to the intersection between demand creation and improved access.

Figure 9: UNFPA Supplies fund allocations by programme output and year in the Sudan



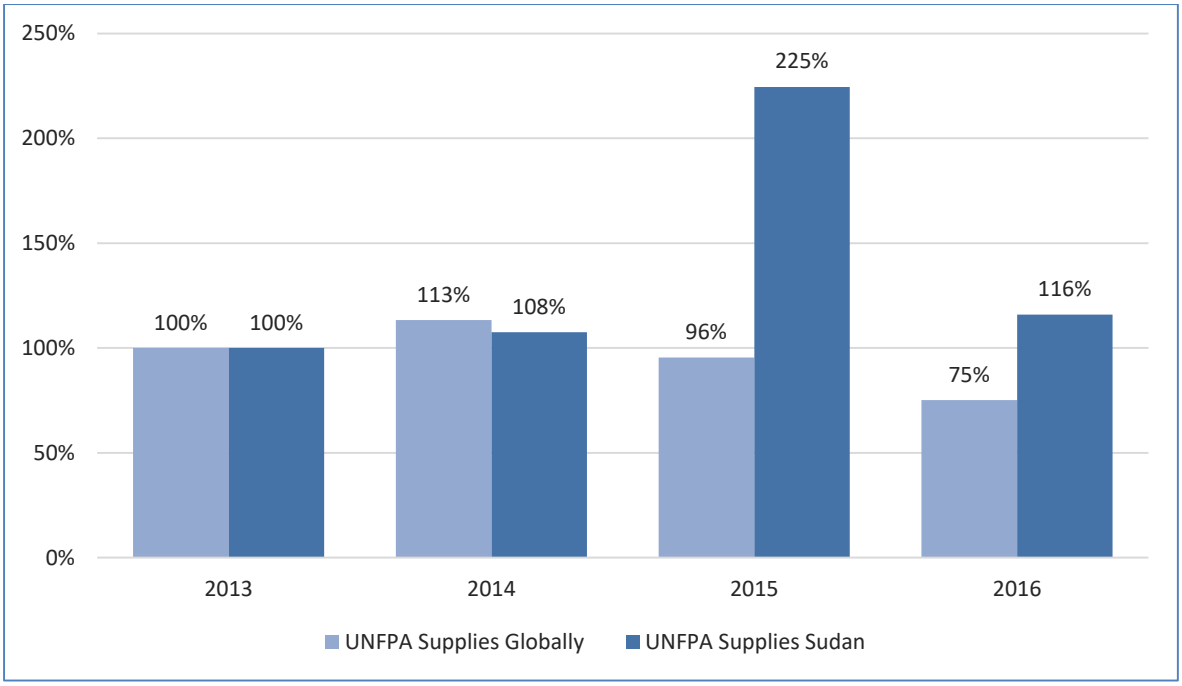
The distribution of available funds in Sudan shows some variation in relation to the global pattern. Figure 10 illustrates this using 2016 expenditure data. In Sudan, the programme expended significantly less than the global average on outputs one, two and six and somewhat more on outputs three, four and five. Notably, a higher proportion of available funds were spent on commodities in Sudan than globally.

Figure 10: Distribution of programme funds by output, UNFPA Supplies global and the Sudan, 2016



Over the four-year review period fund availability and expenditure varied both at country and global levels reflecting a lack of predictability in resource flows. Figure 11 shows the variations across the four years in relation to the baseline year (2013). Resources to Sudan increased over the four year period and although there was a significant drop in 2016, as noted above, Sudan programme expenditure ended the four year period higher than it had been in 2013.

Figure 11: Changes in UNFPA Supplies expenditure globally and in the Sudan 2013-2016



2.2.2 Key implementing partners

The key implementing partners for UNFPA Supplies in Sudan: (a) the ministry of health (mainly the family health departments) at federal and state levels; (b) the NMSF at federal and state levels; and (c) international and national NGO partners that work in conflict affected areas such as Darfur (for example, Médecins sans Frontières). In terms of commodity support, UNFPA Supplies accounts for close to 100 percent of all family planning commodities shipped to Sudan either directly or indirectly.[13] There are some commodities available for sale in private pharmacies but in the public sector, UNFPA Supplies provides almost all commodities either directly (to the public sector) or indirectly through global allocations to IPPF which then passes a share to their partner agency in Sudan, the SFPA. SFPA estimates that it provides about 20 percent of family planning services in the country and is starting to focus particularly on distributing implants as a priority. SFPA runs both fixed and mobile sites across the country and has formed partnerships with private providers and pharmacies. It has a small social franchise network.

3 CASE STUDY FINDINGS

The documented evidence for the findings reported in this section can be found in detail in the Evaluation Matrix (Annex 1).

3.1 The enabling environment for RHCS and family planning

UNFPA Supplies has contributed to small but, in the context, significant gains in supporting the expansion of reproductive health in Sudan during the 2013 to 2016 period. The first upward shift in mCPR in two

[13] Interviews with senior staff in MoH, NMSF, and UNFPA.

decades was achieved during this period. The programme supported the inclusion of relevant objectives in the national reproductive health policy, oversaw the incorporation of family planning commodities and life-saving maternal drugs into the national supply chain management system, ensured family planning and donated maternal drugs remained free of charge, and linked family planning to maternal health in a number of ways. Less progress has been made in expanding family planning services to non-government channels such as NGOs and the private sector. Despite FMoH policy statements referring to adolescents and the marginalised, targeted activities supported by UNFPA Supplies to implement these policies were not easily identified although some pharmacists are now being trained. More could be done to promote the benefits of family planning in adjacent policy areas such as birth spacing as a strategy to support infant and child nutrition outcomes.

For details of the evidence supporting findings in section 4.1 see Annex 1: Assumptions 1.1, 1.2, and 1.3

3.1.1 UNFPA Supplies and the enabling environment in the Sudan

Sudan is a complex operating environment affected by a number of attributes (geographic scale, a distributed, highly diverse population, multiple languages and cultures) and by a range of political, economic and social challenges (an almost permanent conflict since independence in 1956, economic sanctions that have affected imports, growth and development, and complex social and cultural issues including FGM and early marriage). On a multi-sector basis UNFPA is a relatively small partner but UNFPA is the main partner (and only donor partner) working in reproductive health. With limited funding for programme activities, it has had to choose carefully how to use its resources for maximum impact. Gains have been relatively small but significant as trust was rebuilt between the Sudan government and UNFPA following the sudden departure in 2014 of the UNFPA country representative apparently over conflicting views about approaches to family planning programming.[14] Since that time, and under new leadership, UNFPA support to family planning has gradually become more openly welcomed. For example:

- UNFPA has supported the development of policy guidance to reproductive and maternal health. In a recent high-level policy statements, the President made a public commitment to advance women's, children's and adolescents' health in the 2015-2030 era
- The associated "Ten in Five" strategy identifies reproductive health as a vital component of primary health to, "*improve health status and outcomes of mothers, children and adolescents, prioritizing poor, underserved, disadvantaged and vulnerable populations*." [15]
- The strategy contains specific objectives to expand the use of long acting contraceptives
- UNFPA Supplies negotiated the introduction of its donated commodities into the NMSF 'free medicines' programme
- Clear identification of maternal health policy priorities including a target for reducing maternal mortality and increasing skilled birth attendance
- Support by UNFPA to reducing child marriage and ending FGM integrates reproductive health more generally and family planning in particular to encourage communities to consider delaying and spacing births
- In 2017/ 2018 UNFPA aims to support the MoH to develop a Reproductive Health (Family Planning) Strategy which would be a significant advance.

[14] UNFPA Country Representative was expelled from Sudan in April 2014 apparently over UNFPA's approach to reproductive health and condoms in particular although the details are difficult to ascertain. See, for example: https://innercitypress.blogspot.co.uk/2016/08/as-sudan-talks-fail-inner-city-press.html?m=1

[15] *"10 in 5" Strategy: RMNCAH Strategic Plan 2016- 2020",* General Directorate of Primary Health Care, Federal Ministry of Health, Sudan, September 2015, *p32*

These are important developments in the policy and programming environment and as a result change is slowly becoming evident. The increase in mCPR noted between 2010 and 2014 (from 9 to 12 percent) was the first increase in two decades. Following a serious setback in family planning policy some years ago, the signs are positive that UNFPA has been able to work constructively with the FMoH to re-establish family planning as a basic primary health service. However, as one member of the UNFPA team astutely observed, "*The main change needed in the sector is to move family planning from a health issue to one of national development*."

There are missed opportunities in the high-level policy arena which confirm that while there have been some improvements, the shift from health issue to development challenge has not yet been fully achieved. For example, in the Ten in Five high level strategy document, there is no mention of importance or priority placed on planning families (delay, space, limit) or any overarching identification of reproductive health as linked to economic development, prosperity or strong families. In fact, family planning is not mentioned by name in the main text of the document. This omission suggests the extent to which family planning and contraception continue to be a sensitive issue in Sudan.

3.1.2 Missed opportunities to integrate family planning services in adjacent policy areas

Partly as a result of UNFPA Supplies support to policy and strategy development processes, the investments, activities and outputs of UNFPA Supplies align well with the written policy environment for RH/FP in Sudan.

However, there are other specific missed opportunities to integrate family planning into adjacent maternal and child health programmes. For example, the nutrition policy does not refer to the critical role of birth spacing as a nutrition intervention in support of infant and child health (let alone maternal health). There is some evidence that women are invited to attend family planning service forty days after giving birth but it is not integrated into post-natal care policies.

The "*Ten in Five* [policy] *grants significant consideration to vulnerable groups, ensuring that they are reached with essential RMNCAH services. These include the nomadic populations of all states, as well as those who live with disabilities or in crisis situations. Moreover, the strategy envisions that every woman will be empowered and supported to enjoy her rights and overcome all social and legal barriers that harm her physical, mental and emotional health and well-being."*[16]

The 'Ten in Five' strategy refers to adolescent services and aim to, "*improve and provide quality adolescent services to ensure that adolescents progressively develop the health knowledge and practices needed for a productive and fulfilling life. Due priority is given to their health issues and the availability of youth-friendly services, well integrated into the existing RMNCAH services. This will encompass interventions for establishment of new adolescent friendly centers in coordinate with Ministry of Social Welfare, addressing the major health issues of this sensitive age group including life style practices associated with non-communicable diseases, sexually transmitted diseases, and combating harmful traditional habits (FGM and Child marriage)."*[17]

However, on asking for more details about specific strategies regarding adolescents in particular, neither the UNFPA Supplies team nor the Federal MoH, had developed specific operational strategies around targeting or reaching adolescents, the most marginalised or the disabled. Only married women are able to access contraceptives. In Sudan, child or early marriage is common and

[16] *"10 in 5" Strategy: RMNCAH Strategic Plan 2016- 2020",* General Directorate of Primary Health Care, Federal Ministry of Health, Sudan, September 2015, *p34.*
[17] Ibid.

33 percent of adolescents are married. When asked, practitioners in public health facilities said they asked all women if they are married and provide family planning to those that say they are.

However, it was evident that both government services (FMoH and Ministry of Social Welfare) in partnership with UN agencies (UNFPA, UNICEF etc.) have a visible and active set of strategies around reducing FGM and early marriage. UNFPA Supplies-funded programme activities supported these large scale social norms change efforts both directly and indirectly. Direct support was through strengthening maternal health services and saving lives at birth; indirect support was through policy support to service delivery and technical assistance funded by the programme.

SFPA, the non-government implementing partner and second largest reproductive health provider in Sudan, has a very specific policy about not discriminating against adolescents, unmarried women and men, the disabled etc. Their rights-based charter specifically stipulates that their target population includes the poor and marginalised women and adolescents everywhere. One of their clinics, in Jazera, has special afternoon opening hours (2-6pm) for access by special groups including men who have sex with men (MSM), commercial sex workers, and people living with HIV. The mandate of the SFPA is to provide sexual and reproductive health services to all people irrespective of age, ability to pay, sexual orientation etc. In addition, they use a combination of fixed, mobile clinics and outreach services to reach nomadic groups and others.

3.1.3 Expanding suppliers, funders and service providers

Family planning services appear to have reached increasingly more people. The growth in public health service infrastructure underpins this especially in rural areas, although services still reach fewer than 50 percent of the population. However, even where services are available, they are not always fully used. For example, on those days when the evaluation team visited the facilities in Sudan, few family planning services had been delivered. In some cases, services were closed.

However, other approaches to service delivery contribute to extending reach. These are not well developed in Sudan on the whole but SFPA has seven mobile services and six social franchising centres selling contraceptives at low cost. Services are also supported for internally displaced populations in several camps in Darfur including Abu Shouk; services are delivered directly by SFPA and by non-governmental partners. However, for a population of 40 million, the range of alternative service providers is limited.

The private sector is still fairly young in Sudan as well and although SFPA offers contraceptives through partnerships with over a hundred private providers, including pharmacies, there is much more that could be done. UNFPA and the Ministry of Health both aim to deepen private sector engagement in the future. None of those individuals or organisations interviewed in Sudan identified with a policy linked to a “Total Market Approach”.

3.2 Increasing demand for reproductive health commodities and services

Demand creation in Sudan has been a small part of the UNFPA Supplies programme despite the almost universal belief that low levels of awareness and misperceptions about family planning are the principal obstacles to increasing uptake of contraceptives. Even where family planning services are available and free, uptake is low. Low demand for facility births is more clearly linked to poor access and perceptions about poor quality. FMoH officials are concerned that they will not have the resources and support to build on the gains of the last few years through increased demand creation activities, including mass media campaigns.

For details of the evidence supporting findings in section 4.2 see Annex 1: Assumptions 2.1, 2.2, 2.3.

3.2.1 Building demand: low hanging fruit

Investing in demand creation and supporting networks

UNFPA Supplies in Sudan spent 17 percent of programme funds during the 2013 to 2016 period on direct support of demand creation activities (a total investment of 221,280 USD). This was two percent of total UNFPA Supplies expenditure in Sudan between 2013 and 2016.[18] In keeping with the decision by the UNFPA Supplies Steering Committee, the 2017 allocation for Sudan has a very low budget to support demand creation. However, the UNFPA CO intends to use core funds to maintain support to demand creation activities, including mass media campaigns.

Demand creation at community level was undertaken in the six focus states. A 'whole of community' approach is adopted rather than targeting only women. Thus, activities aim to engage community leaders, religious leaders, women's groups and midwives and health workers. The role of community midwives was identified as particularly important given their role in delivering services to women who have no/ little access to formal health facilities. However, across the country, the FMoH identified the limited capacity and resources available to undertake community mobilisation activities as a severely limiting factor in the effort to increase the demand for family planning.

Service providers interviewed at health facilities (both government and NGO operated) all suggested that it is very difficult to separate the provision of services from demand creation. Especially for outreach activities and mobile clinics, community mobilization and demand creation activities are essential to the success of the clinics. Senior MoH officials, when asked about barriers, said that a lack of awareness about family planning was the main obstacle to increasing the mCPR.

3.2.2 What are the barriers to demand?

Unmet need for family planning in Sudan is estimated at about 29 percent. Yet, visits to health facilities make it very clear that many women with the opportunity to use the family planning service, are not doing so. The UNFPA senior leadership said that unmet need was a challenging concept in a context of low awareness about family planning such as Sudan. For example, if a woman does not wish to be pregnant right away after giving birth, that is considered a need for family planning. However, she may or may not know about family planning. She could have unmet needs but not use the service even if available to her.

However, in addition to the knowledge-awareness gap around unmet need and demand for services, there are many cultural issues, preconceptions and even some semi-legal issues around accessing reproductive health services. While 72 percent of respondents to a 2014 KAP survey[19] identified birth spacing as good for the whole family, only 55 percent think that contraception is accepted by their religion, and only 48 percent thought that family planning was safe. Yet, 73 percent said that family planning was easily accessible. The most common reasons for not using family planning were:

- fear of side effects (26 percent)
- not allowed by local culture (13 percent)
- lack of knowledge of family planning methods (13 percent)
- spouse unwilling (12 percent)
- not allowed by religion (4 percent)
- lack of knowledge about where to get family planning (4 percent).

The fear of side effects and views about religious proscription were common perceptions among all those interviewed. People were said to be reluctant to use family planning because they thought it would cause them harm. Specifically, family planning was thought to cause hair loss, permanent infertility, and more pervasive health problems.

[18] UNFPA CO, *2013-2016 UNFPA Fund Expenditure – Sudan.*

[19] Knowledge, Attitude, Practice Survey, Baseline KAP study on RMNCH/FGM related issues in Sudan, Directorate of Family Health, Ministry of Health, Sudan. (2016)

Figure 12: Alta Widet Primary Health Care centre: no one is waiting for family planning

The lack of demand, even where the supply of services is good was notable. At Alta Widet PHC centre, a family planning nurse presided over a private room with five family planning options. The service was open all day and more than one hundred women had visited the centre (25 of them are in the photo at Figure 11). Yet, only eight consultations for family planning had taken place that day. At Al Hidaya clinic in Kassala, on the day prior to the evaluation visit, seven women had attended for family planning, two of whom attended for the first time. All seven women were given three cycles of the oral contraceptive, *Marvelon*.

However, despite the almost universal conviction that lack of awareness and misperceptions about family planning were the main obstacle to expanding mCPR, almost all those interviewed were optimistic about the recent growth in uptake from nine to twelve percent. They said it was significant and there was growing momentum for demystifying family planning.

There is a strong perception among all key stakeholders interviewed that the demand generation efforts supported by UNFPA Supplies (and other agencies) have been instrumental to supporting the sustained increase in demand (such as it has been). However, there is a need to focus on mass media campaigns and also to target health workers themselves. Family planning is still viewed with suspicion and "*much more needs to be done*" to build on the positive trend of the last few years. For example, one senior FMoH staff member said they need to strengthen the links between family planning and economic development both at a family level (have a smaller, stronger, healthier family) and at the national level (manage population growth for the demographic dividend).

3.2.3 Demand for maternity services

In relation to maternity services, the relationship between availability and demand for facility-based births is more clearly linked to the availability of services and their perceived quality. More than 80 percent of babies are delivered at home across Sudan. The women in Abu Shouk, for example, said that they preferred to deliver at home with a community midwife. However, there is only one maternity service in the whole camp and it is situated geographically far away from many parts of the camp. Transport options are poor. In this case, travelling to the health centre is risky and expensive. In Kassala, there are 16 rural hospitals but only three of them are equipped with basic obstetric drugs (for example, misoprostol).

The community midwife training programme is a response to the low access to fixed health facilities. Community midwives are trained for nine to eighteen months (depending on the type). They are sent back to their communities with clean delivery kits. Some ministry of health staff indicate that the community midwife programme has significantly improved health outcomes (discussed further in section 4.4). The UNFPA Supplies programme has supported community midwifery training.

UNFPA continues to provide delivery kits for humanitarian programmes in Kassala (although not from UNFPA Supplies directly). A national programme led by the Ministry of Social Welfare could potentially replace UNFPA supplied delivery kits with a local version. The Manahiya'a programme focuses on the assembly of local clean delivery kits and other benefits such as incentive payments to community midwives.

3.3 Improved efficiency of procurement – forecasting and quantification

UNFPA Supplies support to quantification and forecasting has been acknowledged. The availability of a sufficient method mix (five or even three methods) has been affected by a range of internal and external factors. In practice, options are limited especially in rural areas where sometimes only pills are available. Whereas the distribution of commodities has been blind to actual consumption in the past, a new stock management system is beginning to be used to record (and share) information about actual monthly consumption. The quantification of life-saving drugs appears to be less related to need (oxytocin) but will possibly scale up as new MoH policies around the use of misoprostol at community level begin to roll out.

For details of the evidence supporting findings in Section 4.3 see Annex 1: Assumptions 3.1, and 3.3

3.3.1 Access to adequate funding to meet the need for RH/FP commodities

The effectiveness of UNFPA Supplies is related to the ability of the programme to access the funding necessary to procure the RH/FP commodities required in focus countries.[20] Quantification and demand assessment efforts appear to have been calculated jointly by FMoH supported by UNFPA over the past four years. The method used to undertake the quantification is based on incremental growth in mCPR combined with assumptions about changing trends in preferences. The approach to quantification appeared to focus on method mix rather than absolute amount of product (and cost). The main shift expected is an increased use of implants which are more cost-effective.

There was a general belief among all those interviewed that for now, there was little risk of a shortage regarding family planning commodities especially since the family planning commodities had been handed over to the NMSF to manage and distribute.

In relation to quantifying the need for life-saving maternal drugs, the assumptions used are based on expected complications and levels of competence. For example, during the evaluation period, no health centre was anticipated to hold oxytocin due to cold chain requirements. Misoprostol has been used at hospital level only until now. However, a UNFPA supported operational research study recently demonstrated the feasibility of distributing misoprostol to community midwives and the FMoH policy has expanded to allow its use at community level. The implications of this change in policy for either stock requirements or for training needs have not yet been calculated.

Regarding oxytocin, there is evidence of stock outs in some settings. For example, the Al Saudi Maternity Hospital in Kassala said it required 7000 units of oxytocin where it received 2000 from UNFPA Supplies. The balance was sourced through other – paid for – drug supply channels. The estimate of how much oxytocin is needed is highly dependent on protocols around its use. There

[20] UNFPA, *Mid-Term Evaluation of the UNFPA Supplies Programme (2013-2016): Inception Report.* September, 2017. p.37.

was a lack of clarity about protocols (discussed in section 4.4) but it was clear that the quantification process and the use of oxytocin in practice did not necessarily match.

3.3.2 Distribution is based on previous quantities issued not on consumption

NMSF sends stock to the eighteen states every four months (each month they ship to six states on rotation). The agency can very accurately see what is available in state warehouses, and sometimes in local store rooms, and they can count what has been distributed. However, they have not (until recently) received any record of consumption and have based distribution plans on estimates only.

The distribution from state to localities and health facilities is conducted monthly by the state level of NMSF. UNFPA kits for humanitarian areas are handled differently from contraceptives and lifesaving drugs for other areas. UNFPA, in collaboration with state MoH, decide on the quantity of kits requested from the central level according to the current level of the emergency. The State MoH then submits the order through State NMSF. Once commodities are received at the State level, they are distributed to sites either by the MoH or by organizations working in health (so in either case, not by NMSF). Some non-governmental organizations like Médecins sans Frontières (MSF), Relief International, the SFPA, also have their own parallel supply chain systems which work vertically alongside the national system to support specific groups like internally displaced persons (IDPs). Pressure on RH/FP services increases as INGOs leave but are not replaced by other service providers. MSF, is currently the only service provider in three camps.

3.3.3 Improving quantification through “informed push” systems

In the last year, UNFPA Supplies has supported the FMoH to design, distribute and start training for a consumption-based record system. This system, based on stock consumption recording books, will feed information up from facility to locality level, from locality to state and thence to national level.

There are two new record books that affect the family planning and life-saving drugs quantification process. The first book records the stock consumption for the month (stock received, consumed, in hand) for a range of family planning methods including mini pills, combined pills, injectables, implants and IUD. Condoms are not on the list. The second book records attendance for family planning services, whether the person was a first-time user, the counselling offered and the method prescribed. This stock management system has only just been rolled out (since mid-2017) and thus it is too soon to tell what difference it will make, how well the system will function, its accuracy and implications for forecasting and distribution of commodities. The monthly stock management returns are sent to the NMSF (at state level) and used to reconcile stock movements. Over time, they should help refine quantification processes.

The NMSF sends its report to UNFPA Supplies. It does not automatically send them to the FMOH/ RH department. At state level, the relationship between the Medical Supplies Fund and State MoH varies such that some work very well together and have close information sharing while others do not. At the national level, the MoH RH department commodities coordinator was not in direct contact with the NMSF and was not aware that he could request a monthly report on stock availability. Generally, there was a lack of collaboration between FMoH and NMSF that was potentially obstructive to quantification, forecasting and ensuring that the NMSF delivered commodities in response to national health policy.

The Reproductive Health Commodities Security Committee also plays a role in the formalization of annual quantification. There was general agreement among stakeholders that UNFPA Supplies programme support led to the development of a more accurate quantification of the need for family planning commodities and life-saving drugs in Sudan. However, there was also agreement that the current “informed push system” has important limitations that need to be addressed. The needed improvements are necessary to avoid a situation where some health facilities have overstocks and

others report stock outs. This is the case for both family planning commodities and for the life-saving drugs (although many other issues affect availability of drugs as discussed in section 3.4).

These needed improvements in quantification are part of a much larger issue regarding supply chain management in Sudan. That issue is the focus of Section 3.5.

3.4 Improving access to family planning and life-saving maternity services

Access to family planning services and to life-saving care at birth is limited by a range of factors including the availability of a health worker with the right skills and competence, the availability of commodities and the possibility of referral or reaching a higher-level centre of care. Community midwives are the health workers accessible to women in rural areas and they have only been able to dispense family planning since 2016. In reality, this amounts to pills only as Condoms are not considered a family planning commodity. Most cadres of health workers are unable to use any of the life-saving drugs. All life-saving drugs are used in a few hospitals where one in five babies is born while four out of five babies are born at home or in primary health facilities with no UNFPA-provided life-saving drugs. Task-shifting is currently being explored and the FMoH has said it aims to significantly alter the balance in staff competence by shifting responsibility to lower levels of staff. UNFPA supported model centres have expanded access to family planning and more are set to be opened in 2018 and beyond.

For details of the evidence supporting findings in section 4.2 see Annex 1: Assumptions 4.1, and 4.2

3.4.1 Reaching vulnerable women and girls

With low overall contraceptive uptake and the majority of births taking place at home, the challenge of reaching women and girls, as well as the most vulnerable, the marginalised, nomadic, disabled, internally displaced or otherwise hard to reach women is heightened across the whole of the health sector in all eighteen states. UNFPA Supplies has supported national health authorities at federal and state level with the development of model centres for family planning and reproductive health. Model centres have a minimum number of family planning options available, trained staff, and upgraded facilities. For example, staff at the RH unit at the FMoH said that with UNFPA support, 36 model centres have been opened nationally. They have upgraded infrastructure, staff have been trained to introduce family planning, to talk about different methods and to support client decision making and commodities are available. Model centres have been shown to increase utilisation of family planning services according to the FMoH staff and more are planned for the coming year.

The SFPA said it valued the model centre approach as a way of attracting women and girls to services. It plans to discuss the possibility of collaborating with UNFPA Supplies and the FMoH to open or support model centres itself. In the meantime, the SFPA uses other approaches to reach marginalised or mobile populations including a network of seven mobile clinics. It also supports outreach services from its fixed facilities. SFPA offers a basic PHC package through its mobile and outreach services including SRH, antenatal care, immunisation, child health and so on.

The primary gender equality focus of UNFPA Supplies in Sudan lies in its efforts to secure improved access to quality reproductive health and family planning services for all women and especially marginalized women and girls. This is most evident where UNFPA supports the expansion of Ministry of Health policy to enable more services to be delivered at lower levels of the health system (such as injections and implants, or the use of misoprostol in the community). Through SFPA, UNFPA Supplies supports outreach services in hard-to-reach districts, with high concentrations of internally displaced people, mobile populations and marginalised groups.

It is important to underscore the integrated approach to social norms change and overcoming cultural barriers to sexual and reproductive health that UNFPA Sudan has adopted. Child marriage,

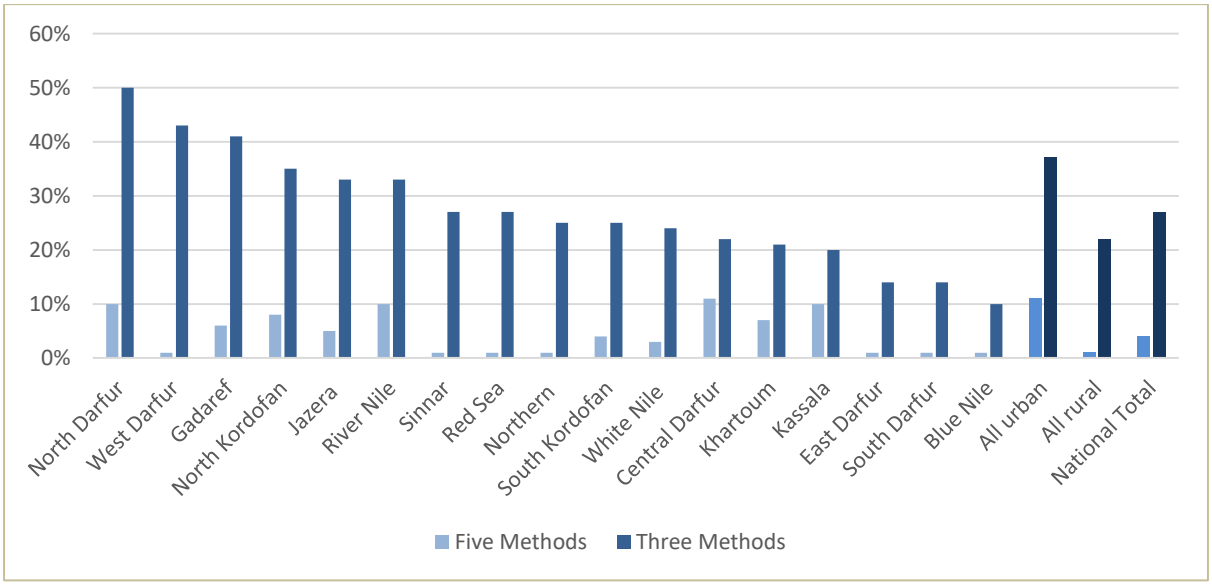
pervasive and persistent FGM, fistula, and negative cultural attitudes to age of first pregnancies and number of pregnancies (often held by health workers themselves) are slowly changing but are nonetheless deeply entrenched. UNFPA Supplies programme support enables or contributes to a range of other programmes spearheaded by UNFPA in Sudan through integrated programme approaches. Given the ambivalence towards family planning generally (and condoms, delayed first births and other specific aspects of reproductive health in particular), the progress made so far is thus at an early stage.

3.4.2 Method mix: Availability of family planning commodities at health facilities

UNFPA is the main partner in Sudan working on family planning support and one of the few contributing to maternal health (through the delivery of life-saving supplies). The availability of family planning commodities is considered a quality marker ("*the main determinant of quality*"). UNFPA focus has been on ensuring that commodities are available as widely as possible, are free and can be distributed at the lowest level of the health system.

However, in the programme period, from 2013 to 2016, maintaining an adequate method mix has been a constant challenge. Figure 13 shows the distribution across the 18 states of health facilities with three methods and five methods in stock on the day of the survey and then the same distribution between rural and urban health service delivery points. Few facilities had five family planning methods in stock and even three methods were rarely found, especially in rural areas.

Figure 13: Percentage of Health Facilities with five and three family planning methods in stock, distributed by state and urban-rural location, 2015.



Method mix is a significant challenge in Sudan for a number of reasons. These include:

- Condoms are not widely incorporated into the family planning programme although they are available for the prevention of HIV. They have not been supplied by UNFPA Supplies since 2014 (discussed in more detail below)
- Injectable contraception was unavailable before 2015 as a result of sanctions
- IUDs and implants can only be inserted by trained professionals and only doctors (and some registered nurses) have been trained.

This means that most nurses and midwives, the health professional most likely to be found at a rural or small urban health centre, would have offered either the combined or mini pill to most women.

The policy environment has been changing and since injectable contraceptives have been re-introduced, midwives and pharmacists are now able to offer this method as well (once trained).

Implants are gaining in popularity and as more health workers are trained, the number inserted increases. UNFPA Supplies invested in training 170 health care providers to do implant insertion. These were made up of 100 health visitors and medical assistants and 70 doctors.

IUDs are not particularly popular in Sudan although they may be limited by the fact that only doctors -- and a few trained sisters (registered nurses) -- are able to insert one. In Al Fasher maternity hospital, they had inserted one IUD in three months. There were no known stock outs of IUDs anywhere.

Condoms

The last time UNFPA imported condoms for the family planning programme was in 2014. Since that time, the only condoms imported have been for HIV prevention. Apparently, there was an incident at customs and the condom shipment was held up for six months. Although the shipment was eventually released, it was but one in a number of incidents which, taken together, represented a pushback against the use of condoms for family planning as 'immoral' or unacceptable in cultural terms. Condoms were connected with sexual behaviour that was considered culturally and socially aberrant. This isolation of condoms as a family planning method remains pervasive across the country. In fact, many of those interviewed in the ministry of health and at UNFPA were convinced that condoms were not valued as a family planning method:

- "People don't ask for condoms" in the family planning clinic
- "Men don't like using them"
- "There is a cultural barrier to using condoms"
- "No restriction on condom distribution but low demand especially from men"
- "NGOs are not allowed to distribute condoms"
- "Condoms cannot be distributed for non-HIV services"
- "The condom distribution policy stipulates that condoms are not for everyone; only for HIV prevention".

UNFPA said it was not fully clear why condoms continued – in 2017 – to be unacceptable. They pointed out that the "most preferred method is pills" despite compliance challenges. However, it should be noted that for many people, possibly the majority outside urban areas, pills are the only option. UNFPA intends to start an operational research programme to understand better the nature of this resistance to condoms and to explore options to rehabilitate condoms into the family planning arsenal.

The FMoH reproductive health team was clear at the senior level about the need to make condoms a viable option but at the technical level there was much less interest or commitment. Indeed, this pattern was echoed across the country. Managers expressed concern about the lack of condoms, "We order condoms but they never come". At the facility level, providers either did not have condoms or did not offer them. For example, at Al Hidaya, in Kassala, the family planning health assistant had a box of condoms in the cupboard. He said they were for HIV or STI prevention. Asked if he would give them for family planning, he said he would not offer but would give them if asked.

As mentioned previously, the new logistics management information system based on recording consumption and balancing family planning stock did not include condoms in the list of family planning commodities. Printed books have been distributed across 2700 or more health facilities and condoms are not an option either to order or to account for.

In summary, there have been confrontations between Sudan authorities and external partners over the use of condoms in the past. Condoms were held up in customs, serious disagreements emerged about the role and use of condoms in Sudan that went well beyond the health sector. Condoms took on a taboo quality and carrying condoms was sometimes dangerous (according to accounts provided to the evaluation team, two young HIV positive men in Kassala who were found by police to be carrying condoms, were arrested and beaten). Condoms were dropped from the list of legitimate family planning commodities and most health workers when asked said that low demand or cultural barriers limited the use of condoms. They also claimed that there was a policy preventing condom use for family planning.

Health workers actually seem to be the main drivers of institutionalising the exclusion of condoms as there was no formal or written policy found and senior health service managers were keen to shift attitudes to condoms and to rehabilitate condoms; UNFPA intends to support that process through operational research (as a start).

3.4.3 HIV and STI related services are not integrated with family planning

Sudan has a focused HIV epidemic affecting targeted groups such as MSM, commercial sex workers (CSW) and a few others. The Global Fund grant funds the procurement of condoms for HIV prevention. Globally, UNFPA is the lead agency for condom supply and in 2016, three million condoms were procured using the Global Fund grant from UNFPA in Copenhagen for Sudan. Although condoms were distributed previously across all eighteen states, there is an intention to be more targeted in the coming years as supply will not meet demand.

Across Sudan, there are 38 facilities offering anti-retroviral treatment services, 500 voluntary testing and counselling sites and 500 or more sites delivering sexually transmitted infection services. None of these sites has yet incorporated family planning services into their approach. One NGO said it would be very willing to do more to integrate family planning and other reproductive health services into its HIV and STI care approach if it were given the mandate and responsibility to do so.

Institutionally, HIV was a national programme until recently and therefore had its own directorate. It has now been incorporated into a single directorate covering 30 or more diseases including communicable, neglected and non-communicable diseases. On the one hand, the integration of vertical programmes into a single department could be an important development and create efficiencies, economies of scale, better training and service quality not to mention better prospects of building operational links with TB and other services. On the other hand, HIV is a relatively small health issue in Sudan affecting an already marginalised community. The integration of HIV is not fully coherent either; STI services and Prevention of Mother to Child Transmission (PMTCT) have both been shifted to the Reproductive Health department. Integration of HIV services into reproductive health therefore remains a potential gap.

3.4.4 Life-saving drugs: misoprostol and oxytocin

UNFPA Supplies donates three life-saving drugs to support maternal health outcomes: magnesium sulphate, misoprostol and oxytocin[21] as part of a multi-partner effort to reduce Sudan's high maternal mortality ratio. Over the programme period, 22 percent of all UNFPA commodities were expended on maternal health supplies and related products (section 2.2 above sets out the quantities of each). Saving maternal lives is thus an integral part of the UNFPA Supplies programme and not a small side-line activity. As with family planning, life-saving drugs are handed to the NMSF for storage, distribution and management.

[21] Magnesium sulphate is used to prevent seizures (for example in the treatment of eclampsia) while misoprostol and oxytocin are used to prevent or stop maternal haemorrhaging.

None of the life-saving drugs is currently available outside the hospital setting. In Kassala, of 22 hospitals, only 3 receive life-saving drugs, including the maternity referral hospital in the capital city. In Darfur, drugs are available only in Al Fasher maternity hospital. There is a potential disconnect therefore between the location and consumption of life-saving drugs and the location of births (and maternal deaths). One hundred percent of life-saving drugs are used in a very limited number of hospitals while only one in five babies is born in a hospital of any kind let alone a referral hospital or one that has life-saving drugs.

No protocols specifically for the use of the three life-saving drugs was found. There was a recently published manual on how to prevent and treat the main causes of maternal death and this included references to the life-saving drugs and others. However, this manual was seen at the UNFPA CO and not at any health facility or hospital.

This section reviews the availability of services to women during delivery in relation to the three life-saving drugs procured by the programme.

Misoprostol

Misoprostol is a powerful uterotonic used to cause uterine contractions and thus stop bleeding. It is temperature stable and does not need refrigeration and as it is given as a suppository, can be administered by any health worker, once trained. The constraint in the Sudan context is its potential to induce abortion. Non-medical abortion is criminalised in Sudan and thus misoprostol is considered a restricted drug. Very specific conditions surround the management of misoprostol, therefore:

- It can only be ordered using a parallel (manual) ordering form that is countersigned by the State ministry of health pharmaceutical department
- The manual form, signed and sealed, is sent by DHL to the NMSF in Khartoum. Orders are filled and sent to the State with all the other commodities
- On arrival, misoprostol is locked with other controlled substances at state warehouses
- At state referral hospitals, misoprostol is locked in either the medical director's drawer or in the pharmacy director's drawer.

There was no protocol for the use of misoprostol. In Kassala there was no misoprostol in stock at the pharmacy or in the state MSF warehouse. In the maternity hospital, the misoprostol locked in the medical director's drawer had expired.

The FMoH changed the policy in 2015 to make it legal for community midwives and other lower level health workers to use misoprostol. In an effort to advance policy implementation, the MoH with support from UNFPA, conducted a research study of four localities (two localities in two different states) exploring the value and feasibility of distributing misoprostol to community midwives. The results were finalised in September 2017 and showed very positive gains were possible both in relation to midwives' capacity to use misoprostol appropriately and the benefit for women delivering at home.

UNFPA aims to support the FMoH to expand the programme in the coming year. This will require: (1) a cultural shift (2) new ordering and distribution protocols (3) significant training implications and (4) a lot more misoprostol. However, given the disparity between the current availability of misoprostol and the location and setting where most women experience post-partum haemorrhage, the change in policy and practice is vitally needed.

Oxytocin

Unlike misoprostol, oxytocin is not room temperature stable and requires refrigeration. It is used for similar purposes although it also may be used to induce labour or accelerate contractions in the case

of slow first stage labour. It is not as straightforward to administer and although there is an option to deliver it intramuscularly (as a shot in the thigh), all three maternity hospitals visited said they relied on intravenous administration although with varying amounts/ concentrations of oxytocin.

All hospitals visited said they administered oxytocin after all deliveries. In Kassala:

- Patients were required to purchase IV giving sets although the oxytocin was free
- Oxytocin was found in the refrigerator at all sites although at one site it was in the freezer
- Most facilities had informal protocols around using 20 IUs of oxytocin routinely and more if there was need. No standard protocols were in place, however, and at Omdurman hospital the chief midwife said they used three vials (30 IUs) per woman
- It's not common to find guidance around the *prophylactic* use of oxytocin that requires more than 20 IUs over four hours
- The Omdurman hospital guidelines for maternity care (seen at the Khartoum State MSF office) requires ergometrine for routine prevention of haemorrhage and oxytocin in high risk cases.

The Khartoum State MSF staff pointed out that there is too much variation in the use of maternal drugs and no national protocol. Furthermore, there was a heavy concentration of drugs at the referral hospital level and yet the majority of births (and deaths) take place in the home.

Magnesium Sulphate

There were ample stocks of Magnesium Sulphate in all pharmacies and health facilities. In fact, UNFPA will not be ordering stock for 2018 as there is considered to be enough in hand. In some settings, magnesium sulphate was not in the labour ward but was rather kept in a pharmacy at some distance. As an emergency drug, most protocols suggest it should be available in the labour ward for immediate access.

Magnesium sulphate is only administered by a doctor or consultant and is thus only available at hospital level. According to the FMoH, some discussion is on-going about decentralising the use of magnesium to community level or at least to primary health facility level. However, this has not been advanced yet.

Consumption of life-saving drugs

In terms of volume of oxytocin consumed, Omdurman hospital said the hospital pharmacy receives 6,000 vials of oxytocin per month. The hospital delivers about 130 babies a day or 4,000 per month. It is not clear therefore, which women were selected to receive the oxytocin and what happened to other women. If all women were given two vials, the need would be at a minimum, 8,000 vials per month. In any event, as a referral hospital, Omdurman will be treating many high-risk patients who will require additional oxytocin. Thus, there is a gap between the protocol and the amount of product available.

In Kassala, at the Al Saudi maternity hospital, the hospital director said they received 2,000 vials every three months but they used 7,000 vials in that time. They made up the balance from stock purchased by the NMSF as part of the free drugs programme.

UNFPA Supplies will order 1,250,000 vials of oxytocin and 30,000 misoprostol tablets for the next 15-month procurement cycle. Given the proposed expansion of misoprostol to the community level and the current stock outs at national and some state levels, it is not clear that this will be sufficient. In the 2013-2016 period, 800,000 tablets were procured (an average of 200,000 per year) while NMSF distributed 293,816 tablets of misoprostol in 2017 alone.

3.4.5 Human resources issues underpin access

One of the main determinants of access to the full range of family planning commodities or to life saving drugs at birth is the availability of qualified and empowered health workers. Currently, only some health cadres are empowered (authorised) and trained to deliver services within the health system. For example, Table 6 shows the health workers who are able to provide different types of family planning services:

Table 6: Health worker capacity to deliver different methods of family planning, the Sudan 2017

Cadre	Condoms	Pills	Injection (since the end of 2015)	Implant	IUD	Other, e.g. Misoprostol, emergency contraception
Community midwife*						Pilot study completed
Basic nurse/ Primary nurse						
Health Visitor**						
Medical assistant						
Sister (RN)**						
Doctor						
Pharmacist (those trained)						

* Since 2016

** Only a few sisters and health visitors so far have been trained in the context of a pilot programme

The table shows that in practice the majority of women have a limited range of options when accessing family planning services. At the community level, only pills are available in any meaningful sense at the moment and this only since 2016. About 10 percent of community midwives are trained to distribute family planning commodities. Although implants and IUDs are available at the hospital, the family planning nurse was not eligible to insert either of these. Clients waited "several hours" for the doctor to arrive and do the implant. Recently some pharmacists have been trained to do injections and prescribe pills. This has the potential to expand access to some commodities.

Recently, the FMoH, working with states, conducted a trial wherein a group of sisters (registered nurses) and health visitors were trained to insert implants. The trial was apparently successful and offers the prospect that more registered nurses and health visitors will be eligible to insert implants. This could have a significant effect on expanding access to services.

Community midwives at the vanguard

The President of Sudan committed to expanding the number of community midwives to ensure there was one in every village. The role of the community midwife is to support women before, during and after pregnancy and they have a mandate to dispense contraception.

Community midwives are being professionalised in Sudan and are gradually being admitted onto the state payroll. So far about 60 percent of the 22,000 trained midwives have been registered on state payrolls. In some states, this is 100 percent and in other states, only a few midwives have been registered. In Kassala, for example, 56 percent of all villages had a community midwife. This was made up of 1,000 trained midwives altogether, of whom 800 had so far been put in the system (so were receiving a salary). The FMoH plan is to support an additional 3,000 midwives nationally to be trained in the next year. UNFPA is supporting basic training of midwives from the global MNCH Trust Fund.

Competence to manage complications at birth

Among health professionals, currently there are limitations on managing basic emergencies associated with basic obstetric care. Table 7 shows the level of competence required to deal with just the seven signal functions of basic EmONC.

Table 7: Health worker competence to perform the seven signal EmONC functions

Signal Function	Community midwife	Registered nurse	Doctor/ consultant
1. Newborn resuscitation		√	√
2. Parenteral oxytocin		√	√
2a. [Misoprostol]*	√	√	√
3. Parenteral antibiotics		√	√
4. Parenteral anticonvulsants		√	√
5. Manage retained placenta (MVA)			√
6. Assisted vaginal delivery (vacuum aspiration)			√
7. Manage retained products			√

* Misoprostol can be used as a substitute for parenteral oxytocin and some community midwives have successfully been trained but only in four localities.

Again, the evidence suggests that most women deliver in a context in which their nearest health facility is not staffed sufficiently to manage basic emergencies at birth, making a hospital the only potential option if an emergency occurs. However, in Kassala, only three of the 22 hospitals in the state were stocked with misoprostol and/or oxytocin even if a doctor was available. UNFPA uses funds from other non-UNFPA Supplies programme sources to support integrated training for sexual and reproductive health, maternity services etc. UNFPA Supplies supports supervision which is integrated for all mother and child health services.

3.5 Strengthening systems and capacity for supply chain management

Up to 2016, a succession of facility surveys and management audits identified commodity management as a major impediment across the health system with little prospect of improvement whilst family planning remained as a standalone logistics system. UNFPA took a decision to negotiate the transfer of commodity management to the NMSF and this has resolved a significant number of the worst problems affecting the supply chain prior to 2016. There are few stock outs that result from logistics failures (as opposed to being the result of policy decisions about who has access to commodities and in which settings). However, remaining challenges concern the lack of comprehensive (or any) consumption data, the potential risk associated with paying incentives to warehouse managers and the continued lack of additional partners to support the family planning effort in Sudan.

For details of the evidence supporting findings in section 4.5 see Annex 1: Assumptions 5.1, and 5.2.

3.5.1 The shift to a unified supply chain management approach

Across all the interviews conducted in Sudan whether at federal or state level, respondents mentioned the significant transformation in the availability of commodities that has happened in the last 18 months to two years. There were two main problems before 2016. The first was that clearing commodities through customs was a lengthy process. The second related to the supply chain management system for commodities which was not considered efficient.

Before 2016, respondents said that “the supply chain was a major gap in the past”, “no one knew where the drugs were exactly or that they were free”. This is confirmed by the 2014 health facility survey which showed that most health facilities had between zero and two types of family planning. The 2015 facilities survey referred to the “glaring gap” in availability of essential life-saving maternal and RH/FP medicines.

Indeed, the 2015 audit of the UNFPA Sudan office identified a serious problem with the management of commodities:

> *"The inventory of oral contraceptives held at 31 October 2014 represented approximately 20 months of supply. It included contraceptives supplied in 2012 and 2013 at a cost USD 1.6 million. In the case of contraceptive 1, a product with a three-year shelf-life, inventory on-hand at 31 October 2014 was supplied in 2012 and 2013 and amounted to USD 1.3 million. Of this amount, USD 0.4 million corresponded to inventory due to expire in May and July 2015 – which significantly reduces the time window available for distribution and use. Despite the large amount of undistributed inventory, the Office procured in March 2014 additional quantities of the same product, at a cost of approximately USD 0.9 million (the shipment arrived in Sudan in September 2014). In addition, the audit noted that approximately 50 percent of the intra-uterine devices held in stock was procured in 2008, and is due to expire in January 2015."*[22]

UNFPA Supplies took action to resolve the challenges of customs clearance and institutional responsibility for supply chain management. Delays in customs clearance were addressed by making the FMoH a co-consignee with UNFPA. Reportedly this has led to very short clearance times with no significant delays being reported since the change in policy.

In the case of the second, the UNFPA transferred the responsibility for commodity management to the National Medical Supplies Fund following the lead of the Global Fund, Gavi and other large external donors. For many of those interviewed, the shift to the NMSF has been the most important change in family planning services in the recent past. Commodities are trackable; and expiry dates, quantities and whereabouts are more fully understood. This has reduced waste, improved consumption and enabled UNFPA and the MoH to focus on important tasks of building demand for family planning and assisted births (such as training, task-shifting, research etc.).

From the FMoH perspective, the support of the UNFPA Supplies programme between 2013 and 2016 was nonetheless very helpful as it focused on rebuilding selected state warehouses and supported management information systems, training and other necessary elements of improving the management of commodities.

3.5.2 The developing supply chain

The supply chain – at least as it incorporates the UNFPA Supplies commodities – is shown in Figure 14. The processes and bottlenecks have been verified through observation and inspection of the supply chain and during discussions with key informants from the UNFPA CO, the NMSF, development and implementing partners, and staff at subnational level (both health facilities and health authorities).

In Figure 14, arrows show the flows of commodities (blue arrows), information (green arrows) and financial flows (red arrows). Dotted lines identify theoretical flows that are working sub-optimally. The different steps taken to procure, manage and distribute commodities are shown in light green hexagons. While the NMSF covers most of the commodity management and distribution, most of the time, there are a couple of significant exceptions shown in the diagram. First, for example, INGOs and local implementing partners may get some commodities from the national system but they are more likely to procure and distribute these themselves. Secondly, in a couple of states, the NMSF cannot distribute to the last mile (usually because there is no health facility. In these areas, community midwives or other community level nurses are the main service providers). However,

[22] Sudan Audit Report, document No. SDN-103, 4 February 2015, Office of Audit and Investigation Services, UNFPA, page 26.

NMSF is prohibited from handing commodities to individuals and can only consign to institutions such as a health facility. In this case, NMSF hands the commodities to the state level of the Ministry of Health which then takes responsibility for them, distributing them to community midwives and accounting for their use.

Yellow hexagons identify barriers and bottlenecks in the supply chain system. The most important of these include:

1. Federal Ministry of Health and NMSF do not coordinate closely; NMSF does not send reports to FMoH automatically
2. Electronic management system based on calculated push system
3. Manual reporting system and nascent consumption data system for UNFPA donated and free medicines. Parallel reporting system

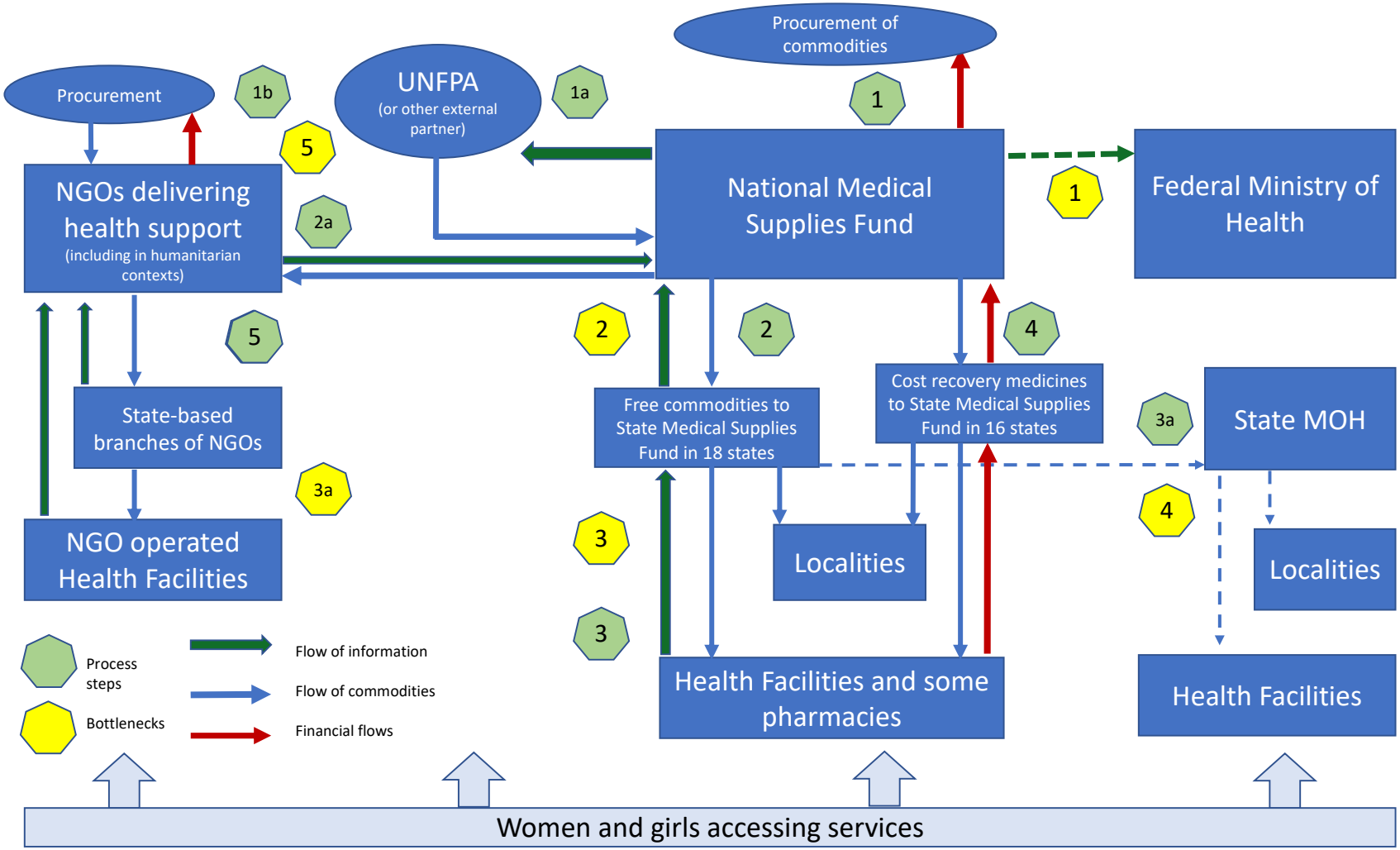
3a. NGO services (SFPA, MSF etc.) use own internal consumption system. No automatic reporting to FMoH or state MoH (or UNFPA)

4. Limitations on the use of commodities as a result of restrictions on human resource competence, legal constraints, infrastructure
5. Limited access to UNFPA procured and donated commodities managed by NMSF by some NGOs working in humanitarian areas.

These identified bottlenecks in the supply chain for basic family planning and maternal health commodities arise from (or are exacerbated by) a number of wider institutional factors operating in Sudan. These include:

- Under-developed relationships between different institutional actors in the health system and the need for closer cooperation and information sharing
- The lack of a consumption based information system (although recently there have been efforts made by UNFPA, NMSF and the Ministry of Health working together to address this to some extent)
- Limitations on the health professionals trained and competent to use different commodities
- Restrictions on the delivery of health services in humanitarian areas and contexts.

Figure 14: Process diagram of the supply chain for UNFPA procured commodities, the Sudan



Process steps

1. National Medical Supplies Fund (NMSF) develops a list of commodities and procures these from the global market; access to Forex through a currency swap with UNDP. Goods arrive, are cleared and stored in national warehouse.

1a. Donated commodities procured by external partners. Co-consignee with the FMOH. Goods cleared by agent, delivered to NMSF. Within 72 hours, goods are inspected by donor, NMSF and MOH and at that point NMSF takes responsibility for storage, distribution and use.

1b. NGOs such as the Sudan Family Planning Association (SFPA) receives commodities procured by through their headquarters. Some of these are UNFPA donated supplies.

2. NMSF distribute commodities to state MSF warehouses. Deliveries are made every three months. An electronic management system, fleet of temperature controlled trucks, and upgraded warehouses enable close tracking and accountability for both free and cost-recovery drugs.

2a. Selected commodities may be transferred from NMSF warehouses to SFPA for distribution, for example, implants provided by UNFPA Sudan to SFPA.

3. Once in state MSF warehouses, commodities are distributed to localities and health facilities. In most states, commodities are distributed from state warehouses directly to health facilities. In some states, commodities are distributed only to locality warehouses.

3a. Some free drugs/ donated commodities are transferred to the state or locality representatives of the MoH. This is where there is insufficient warehousing or supervision (yet) on the NMSF side. MoH distributes commodities (including kits, family planning commodities but not life-saving drugs).

4. States account for free and cost-recovery commodities. In due course, payment is sent from states to the NMSF for the cost-recovery medicines.

5. NGOs (both national and international) receive their commodities from state-based stores. They account for these to national NGO structures.

Bottlenecks

1. Federal Ministry of Health and NMSF do not coordinate closely; NMSF does not send reports to FMOH automatically.
2. Electronic management system based on calculated push system.
3. Manual reporting system and nascent consumption data system for UNFPA donated and free medicines. Parallel reporting system.

3a. NGO services (SFPA, MSF etc) use own internal consumption system. No automatic reporting to FMOH or state MOH (or UNFPA)

4. Limitations on the use of commodities as a result of restrictions on human resource competence, legal constraints, infrastructure.
5. Limited access to UNFPA procured and donated commodities managed by NMSF by some NGOs working in humanitarian areas.

3.5.3 The nature and impact of stock outs

The evaluation team reviewed the stock availability in seven health facilities and at NMSF warehouses at national and state level (three states). There were almost no stock outs with a few notable exceptions.

- Most facilities or warehouses did not have condoms. The one warehouse with condoms had given away 32 condoms in the whole month of September 2017. Most likely these condoms would be passed to the HIV programme to be used
- No misoprostol available in Kassala state (neither the warehouse nor the facilities)
- No IUDs, implants or life-saving drugs are routinely available at public sector primary health facilities effectively because of the lack of doctors or trained staff. All family planning commodities (other than condoms) are available at the SFPA primary care facilities.

As discussed in section 3.4, and other than the stock outs listed above, the lack of stock at health facilities appeared to be more of a function of the family planning/ maternity policies in force rather than due to supply systems failures. There was every indication that the NMSF would have been able to deliver stock to all health facilities if that were required.

3.5.4 Beyond the national Logistics Management Information System

NMSF has implemented electronic logistics management information systems (eLMIS) to at least state level. In practice, this means that their national warehouses, their data management system and the majority of their state warehouses are electronically managed (stock management, security, distribution data, fleet management and so on).

The system 'goes blind' from the state level to localities and below relying on educated guesses rather than real data. In addition, there is no consumption data routinely collected at facility level other than a small amount from the UNFPA Supplies supported manual stock management system.

Warehouse managers across the system are expected to count the stock received from NMSF and account for consumption using a paper system. Apparently other external partners have allowed additional incentives to be paid to stock managers at the sub-state level to compensate for the extra effort required to manage and account for their donated commodity. It is not clear if this incentive is paid by the NMSF, the health sector at state level or the external partner. Nonetheless, the idea that warehouse managers and pharmacists are paid extra to manage some stock creates a risk that without payment, stock will not be managed properly or thoroughly.

The overarching responsibility for reproductive health commodity security in Sudan falls to the Reproductive Health Commodity Security committee which should meet quarterly but in reality, based on the minutes of meetings identified, meets twice a year. The Committee is chaired by the RH /FP director at the FMoH and attended by UNFPA, NMSF, SFPA and one or two other partners. It takes responsibility for quantification and seeks to develop ways to enhance information systems, commodity availability and so on. The Committee played an important role in the process of integrating family planning commodities into the NMSF free drugs programme.

The committee identified as one of its objectives for the last two years the urgent need to broaden the funding base for family planning (and maternal health) in Sudan. However, it has not undertaken any concrete activities to this effect nor has it succeeded yet in attracting other partners into the family planning arena. As of 2017, UNFPA Supplies is still the main provider of commodities. NMSF shows no indication that it would start supporting family planning by incorporating a component into the free medicines programme using government resources.

3.6 Improved coordination and management

UNFPA provides general and targeted coordination and support to Sudan. Given its role in driving the family planning programme, the evidence suggests there would be scope to increase technical skills available in the UNFPA office. Although UNFPA targets its programming resources to six states (out of eighteen), there were suggestions that this approach should be more flexible (given the limited resources available) so that other states could benefit or to target national programmes like mass media campaigns.

For details of the evidence supporting findings in section 4.6 see Annex 1: Assumptions 6.1 and 6.2.

3.6.1 Coordinating action in support of RH/FP in the Sudan

Although the UNFPA Supplies programme delivers commodities and some of its activities at the national level and across all 18 states (see section 2), it targets many of its activities to six states in particular. In balance, this is probably sensible given the limited funds available and the significant costs associated with reaching communities across the country. UNFPA used criteria to select the states (mCPR rates, etc.). However, FMoH staff pointed out that these states were selected in 2013 and have not changed in the four years of the programme. They were the same states in the 2008-2012 programme. Over this long period of time, the CO has not undertaken an impact assessment of the six states or identified in any kind of evaluation, what difference their engagement in these states has made. In particular, UNFPA has not reflected upon the possibility to draw some of the activity funding away from specific states to fund mass media campaigns or other national level activities.

3.6.2 Capacities of the UNFPA country office

Interviews with MoH staff at the Federal and State levels indicate that the UNFPA CO was able to provide an appropriate level of technical support to the UNFPA Supplies Programme. They particularly noted that the CO provided technical support to the quantification process. However, given how important UNFPA is to family planning in Sudan and its technical links to adjacent services (safe motherhood, nutrition, child health, STI control, HIV, etc.), some of those interviewed suggested that it would be appropriate to further increase the technical capacity of the UNFPA team.

3.7 The catalytic role of UNFPA Supplies

Because it provides almost 100 percent of family planning commodities shipped to the public sector in Sudan each year (either directly or through global partners), UNFPA Supplies is central to the operation of reproductive health programmes in the country and this situation has remained static over the four years of the review. The most pressing need in Sudan is to build awareness of, access to and demand for quality family planning services in order to increase uptake. However, this will exacerbate the clear risk associated with the small number of partners in this area. As the only funder of commodities, UNFPA has not yet been able to make progress on its objective to build a coalition of support for family planning and, in practical terms, broaden the funding base, including from the Sudan government. It started and finished the programme period as the main provider of family planning and life-saving drugs, a situation that is unlikely to be sustainable especially as mCPR increases. With increased mCPR in Sudan, it is clear that UNFPA Supplies has been an agent of change. In the sense that it has failed to leverage additional support from other funders, including from the public purse, it has not been able to play a catalytic role.

For details of the evidence supporting findings in section 4.7 see Annex 1: Assumption 7.1

3.7.1 UNFPA Supplies as a core element in family planning programming

There is a general agreement among all key stakeholders interviewed in Sudan that the UNFPA Supplies programme is essential to the operation of family planning services across the country and that it has made an important contribution to improving maternal health outcomes. As already noted, the programme is the exclusive source of family planning commodities for public health facilities and indirectly, supports the main provider of NGO services (SFPA).

There have been significant improvements in the management of UNFPA procured supplies since the 2015 internal audit was conducted. In particular,

- The shift to include the FMoH as a co-consignee for all commodities expedited clearance through customs on arrival in Sudan;
- The shift to using NMSF to store, distribute and account for commodities has significantly increased the availability of stock (and knowledge about availability).

3.7.2 Leveraging international and national resources

As a country with few donors and a range of economic challenges, alternative/ additional sources of funding for maternal health and family planning have not been forthcoming. Despite having a clear objective in their Country Programme Action Plan to expand the funding and partnership base (and a recurrent agenda item to this effect in the RHCS committee), UNFPA Supplies continues to be the only supplier of family planning commodities and a primary funder for associated activities including training, demand creation, improving access and strengthening supply chain management.

3.7.3 The challenge of encouraging movement toward sustainability

The health sector in Sudan has relied on donor support despite difficult political and economic challenges, humanitarian crises and related conflicts that meant the ebb and flow of health partners over time. As the only family planning partner, UNFPA is in a risky position, as are the Sudan public health authorities. This situation was underscored recently when funding commitments to UNFPA programmes across the globe were cut quite suddenly. One impact was a need to redevelop workplans and approve these all over again leading to funding delays and a squeeze on the time available to deliver activities.

There are ambitious plans to increase family planning service uptake and yet the government budget does not yet contribute anything to commodities. According to the NMSF, there are no plans to introduce nationally funded/ subsidised family planning options either. UNFPA Supplies appears to be the only option. This position is unsustainable in the medium term let alone the longer term. However, of note is that recently funds have been made available from Japan to support some training in implant insertion according to the FMoH.

3.8 UNFPA Supplies in humanitarian crises

UNFPA Supplies supports the humanitarian response in Sudan in a series of ways including by delivering commodities through the routine supply chain, investing in training activities and other programmatic work and by supplying commodities to non-state service providers such as the SFPA. UNFPA Supplies no longer provides kits other than in a sudden new crisis. Recently, UNFPA has started working with the state ministry of health and medical supplies fund to broker access by INGO service providers like MSF in Darfur to family planning commodities and life-saving drugs on a more regular, predictable basis. This would help improve access to services for particularly vulnerable groups of people and strengthen the health system in these areas.

For details of the evidence supporting findings in section 4.8 see Annex 1: Assumptions 4.4, and 4.5

3.8.1 Mapping and responding to humanitarian crises in the Sudan

With humanitarian crises to east, west and south of the country, the pressure on available resources is significant. UNFPA distributes commodities and undertakes activities in the emergency/ humanitarian affected areas which are the five Darfur states, Blue Nile and White Nile. There are humanitarian needs in Kassala as well. The programme distributes kits 2 to 12, especially kit 3 (post-rape kit). Both at the onset and through the on-going evolution of a humanitarian crisis, UNFPA is led by the approach set out in the MISP. The MISP identifies clear priority services to be offered immediately in a crisis. Both WHO and the SFPA said that they thought the leadership shown by

UNFPA in its promotion and use of the MISP in Sudan has been one of its most important contributions.

Table 8: UNFPA Emergency Kits currently in stock in North Darfur

Kit number	Kit Description	Stock in hand
2a	Clean delivery kits (personal)	3.5
2b	Clean delivery kits for midwives	2
3	Post rape kits	1
5	STI diagnosis and treatment	3
6a	Clinical delivery assistance kit (facility based kit with equipment, sutures etc.)	2

The joint humanitarian response plan is developed based on needs. However, the implementation of the plan is determined by resource available and access. Humanitarian needs continue to increase across the country.

For example, in Darfur, there are 2.5 million refugees and IDPs. UNFPA responded to the crisis in Darfur by opening an office in Al Fasher and delivering:

- Kits, contraceptives and life-saving drugs
- Medical equipment to support maternity, deliveries, and the blood bank
- Activity support for demand creation through training of midwives and nurses in facilities and community midwives in the community
- Support to strengthening referral including through the provision of ambulances.

This support is funded from a range of sources including the Common Humanitarian Fund, the Central Emergency Response Fund (CERF), and the global trust funds (for example, the MNCH Trust Fund). Over the 2013 to 2016 period, the amount of commodity funded by UNFPA Supplies was reduced to negligible amounts. Some activities are supported directly or indirectly by the programme (for example, training activities). For example, in 2017 UNFPA supported the training of 92 midwives from the IDP communities. But the majority of commodities are procured from other available sources. As noted in section 2, funds directed to the crisis in Darfur in particular, are falling off significantly.

On the other hand, the government health system in Darfur is fully integrated into the national supply chain. NMSF delivers family planning commodities and life-saving drugs to Al Fasher for example, and these are distributed to various localities. Since a significant proportion of those who use government referral services (for example, the maternity hospital in Al Fasher) are IDPs, UNFPA Supplies does in fact continue to provide direct support to the humanitarian crisis in Darfur.

Availability of kits

Despite not being funded from UNFPA Supplies, in North Darfur, most kits were available. Each kit meets the needs of ten thousand people for a month. The INGO, MSF, says that it always faces a shortage of clean delivery kits. With 1200 deliveries in 2016, the amount received from UNFPA (howsoever funded) met only 25 percent of the need.

In Kassala, significant stocks of kit 3 were noted in the MoH reproductive health warehouse attached to the state MoH.

3.8.2 Future options

Given that a significant proportion of the two or more million IDPs in Darfur have been there for over ten years, the likelihood of a resolution to their situation is not high. UNFPA Supplies has

started to negotiate with INGOs and the State MoH around the possibility of supplying family planning commodities and life-saving drugs to service providers in IDP camps as part of the routine distribution of supplies.

This development would shift some portion of humanitarian services back into the national health system, and back to UNFPA Supplies, at least with regard to family planning commodities and life-saving drugs. This would alleviate pressure on the limited humanitarian funds available. But it would also start a process of normalising IDP access to services, and support non-government service providers with a more predictable expectation of SRH supplies.

4 CONCLUSIONS

4.1 Strengths and Challenges

The conclusions presented here are based on findings reported in section 3. The conclusions are intended to provide an overall summary of the contribution made by UNFPA Supplies in Sudan from 2013 to 2016 and to point out some of the most important strategic choices facing the programme going forward.

The theory of change for UNFPA Supplies[23] (Annex 2) illustrates how the different activities supported by the programme (from 2013 to the end of 2016) can be organized under three inter-locking and inter-related outputs necessary to achieve the programme goals:

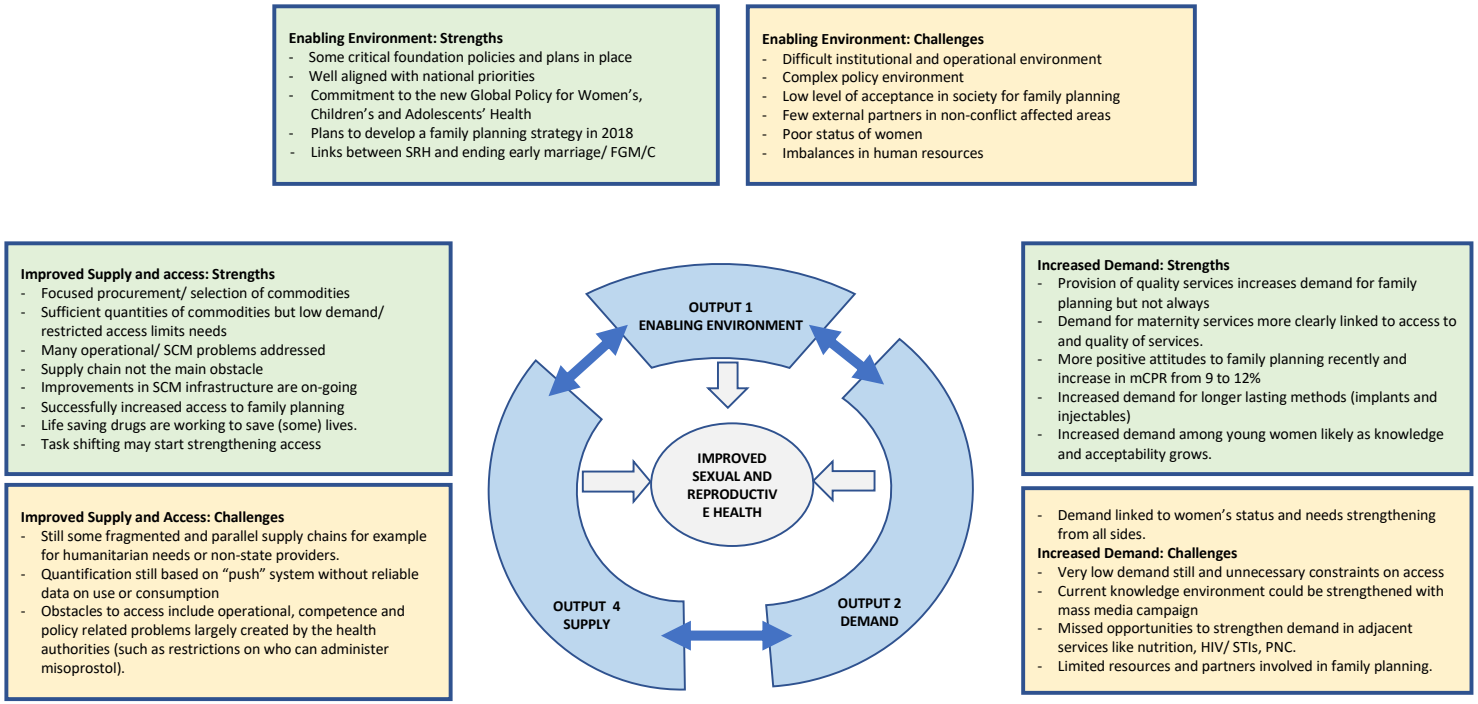
1. Improved **supply and availability** of reproductive health and family planning commodities and services (including improved access for poor and marginalized women and girls) contexts
2. An **enabling environment** for reproductive health commodity security and family planning in Sudan
3. **Increased demand** for (and access to) reproductive health and family planning commodities by poor and marginalized women and girls.

These three outputs constitute the main components of the Supply, Enabling Environment and Demand (SEED) model of effective reproductive health and family planning programming first advanced by Engender Health.[24] Of course, it is not necessary for the UNFPA Supplies programme to address all three components of the SEED model in any one country. Other sources both of funds and technical expertise, whether from national or external sources, may well address one or more of the three components. Indeed, from 2017 onwards, increased demand is not a designated output of the programme. However, because all three outputs were included in the design and operation of UNFPA Supplies in Sudan during the evaluation period, it is useful to examine the overall effectiveness of the programme through the lens of the three-component SEED model.

Figure 15 provides an overview of the strengths and challenges of the UNFPA Supplies Programme in Sudan in relation to improved supply, a strengthened enabling environment and increased demand for reproductive and maternal health commodities and services.

[23] UNFPA, *Mid-Term Evaluation of UNFPA Supplies: Inception Report.* 2017, p.17.
[24] UNFPA, *Mid-Term Evaluation of UNFPA Supplies: Inception Report.* 2017, p.15. Original model can be accessed here: https://www.engenderhealth.org/files/pubs/family-planning/seed-model/SEED-8pg-English.pdf

Figure 15: Supply, Enabling Environment and Demand (SEED) analysis of UNFPA Supplies in the Sudan (2013-2016)



The situation for reproductive and maternal health services and commodities in Sudan at the end of 2016 and through 2017 indicates the continuing need for a robust UNFPA Supplies programme of support to the country. As the summary of strengths and challenges identified in Figure 15 illustrates, the recent strengthening of the reproductive health commodity supply chain presents an important opportunity to accelerate progress, build on recent gains and transform family planning in particular into a routine and widely acceptable service. The barriers are mainly related to service delivery limitations (access barriers) created by overly restrictive regulatory and policy guidelines (which health workers can deliver what services, for example).

Along with unblocking access to basic reproductive health services, there is an urgent need in Sudan to expand demand creation, raising awareness about family planning and reproductive and maternal health more broadly. The narrow range of partners and the low priority given to family planning in the health services combine to make this one of the main obstacles to expanding coverage and increasing mCPR, despite innovative efforts by the ministry of health on a number of fronts. The UNFPA Supplies programme policy (as of 2017) of not investing UNFPA Supplies resources in direct demand creation activities is currently an overly simplistic response to a complex situation in Sudan and could lead to unnecessarily limiting the uptake of family planning services in particular.

4.2 Contributing to reproductive health and family planning (2013-2016)

1. **UNFPA Supplies has been an essential component of reproductive health commodity security in Sudan** and has been vital to the operations of family planning programming from 2013 through 2017.
2. **UNFPA Supplies has used its resources to consolidate service provision and influence attitudes towards family planning particularly in the last two years.** This has required careful management and good leadership. There is more that could be done, building on this, to support the shift of family planning from a health service to a development issue.
3. **UNFPA Supplies has been a critical agent of change around family planning** in Sudan over the last several years. However, it has been **unable to play a catalytic role** in that it remains the principal donor to family planning and has not been able to leverage additional partners or more public funding.
4. **There have been some critical missed opportunities which have prevented the integration of family planning beyond the immediate service**. The framework of policies, strategies and national commitments to support a strengthened enabling environment in RH/FP programmes and services has been supportive of family planning in general terms. However, family planning specifically (and reproductive health more generally) has not been systematically integrated across adjacent MNCH services such as
    a. incorporating birth spacing as a vital intervention to support infant and child nutrition;
    b. integrating family planning into HIV services;
    c. explicitly incorporating family planning into post-natal care policy.
5. Nonetheless, **UNFPA Supplies, working with Federal and State Ministries of Health, has made an important contribution to efforts to increase demand for RH/FP services** in Sudan and these have started to bear fruit. These efforts have been integrated into approaches to social norms changes (tackling FGM and child marriage in particular) in communities across the country but specifically in 6 out of 18 states. These social norms contribute to low demand but there has been some integration of reproductive health messaging into broader UNFPA supported gender and population programmes.
6. **Access and demand are intricately linked.** Demand for family planning is a broad concept incorporating women who don't wish to be pregnant to those who actually articulate a specific request for contraception. In a country like Sudan, with such underdeveloped

services and large populations that are hard to reach, building awareness about family planning is in fact a component of building access to services.

7. **Working hand in hand with the FMoH and with NGO implementing partners (notably SFPA), UNFPA Supplies has, to some extent, successfully targeted marginalised women.** However, there was little evidence that either UNFPA or the FMoH had developed specific targeted actions aimed at reaching adolescents or the disabled. The programme's partners (particularly SFPA) have generally incorporated elements of a human rights-based approach to providing family planning services.
8. **Demand for family planning is intricately linked to the supply of services**. Where services are available (including commodities), they are increasingly used by people and it is evident that prevalence across the country is going up. However, services are constrained by a range of factors including availability and choice. These are limiting access in unnecessary ways and are a function of policy decisions rather than supply chain failures.
9. **UNFPA Supplies accomplished a very significant advance in family planning and life-saving care at birth by negotiating the incorporation of its donated commodities over to the NMSF**. This has dramatically altered the availability of commodities and has allowed the focus to shift to other policy constraints that limit access to services. UNFPA is working with FMoH to further develop the LMIS so as to strengthen information about consumption at the service delivery level.
10. The **most significant policy shift required to increase the availability of family planning is task-shifting** in order that all family planning methods could be offered at the primary health facility level and a wider range offered at the community level. This would involve: (1) training all community midwives to deliver a broader range of family planning options; (2) accelerating the training to insert implants to a wider range of facility based staff including nurses, midwives, sisters (registered nurses), health visitors, and medical assistants. Insertion of implants is limited by the current policy that prevents lower level health cadres from being trained.
11. Similarly, **there is a mismatch between the location of deliveries (and maternal emergencies and deaths) and the availability of life-saving drugs**. Some of this is driven by the conditions required to use life-saving drugs (refrigeration, IV delivery etc.):
    a. The amount of oxytocin apparently being used at referral hospital level is starkly contrasted with the complete absence of life-saving drugs across 95 percent of the health system;
    b. There has been no recent assessment of the impact that the life-saving drugs programme has had on saving maternal lives;
    c. The use of life-saving drugs is currently confined to a few hospitals despite a change in government policy regarding misoprostol;
    d. UNFPA Supplies has not yet conducted an assessment of the potential impact of shifting misoprostol to community level (in relation to costs of additional product and potential lives saved).
12. Service provision in humanitarian areas has shifted mainly to non-UNFPA Supplies partners over the 2013-2016 period. However, in two ways, **UNFPA Supplies continues to have influence in humanitarian areas**:
    a. Commodities provided by the programme stock public sector hospitals and health facilities in humanitarian areas (for example Al Fasher) and some partners like SFPA still receive their commodities from the programme to deliver services in humanitarian areas;
    b. UNFPA Supplies funding supports UNFPA work in Darfur and other humanitarian areas including for training community midwives and others;

c. UNFPA Supplies is using its convening power to negotiate more predictable access to public commodities by INGOs delivering services in camps and other humanitarian settings.

4.3 Strategic choices: managing risks and promoting choice

In the coming years, UNFPA Supplies has several strategic choices to make. Resources are not sufficient to continue being the only funder or technical partner on family planning and life-saving drugs. Public resources are needed in order to fully integrate family planning and community approaches to maternal survival into the health system. While commodities may be affordable from the UNFPA grant at 12 percent mCPR, the greater the success, the less likely it will be that UNFPA can fund the full burden of commodities.

This suggests a need to (a) broaden the partnership base; (b) open negotiations with the MoH and the NMSF to start incorporating a public share of funding into family planning and to the life-saving drugs (this could be small to start and grow over time); (c) potentially develop Sudan specific package for pills that says "free" on the cover and which can be procured by UNFPA for donation or by other partners including the NMSF.

In addition, there are a number of strategic questions that UNFPA needs to address to make choices on how it will use its influence to shape the development of these services in Sudan:

a. How to invest scarce training resources?

Two quite different options are open for future training and both are important to expanding CYP and mCPR: (i) One option is to invest in training community midwives to hand out pills (and condoms if they can be re-introduced). (ii) Another option is to focus on training formal health workers to insert implants. Both are important to expanding access to services but would require different approaches and strategies and reach almost completely different groups. While UNFPA may use its limited training resources to support this training, it should be strategic about how it does this and methodical in its approach. Developing a training plan jointly with the FMoH – perhaps as a follow-on from the proposed family planning strategy to be developed in 2018 – would be useful and would help strengthen partnerships. Such a plan could incorporate:

- Pilot programmes to **promote task-shifting** (for example, to expand the grade or cadre of health workers who are trained to do inserts);
- Expanding the **training of community midwives** to deliver family planning. There will be 25,000 midwives by 2018 of whom a few hundred only have been trained;
- Exploring the feasibility of **incorporating innovation** into the family planning programme. For example, the use of vouchers to enable women to collect pills at a pharmacy for free or the introduction of the Sayana Press, a pre-loaded dose of injectable that community midwives could administer;
- **Integrating family planning firmly into safe motherhood**, **infant nutrition and HIV prevention** in a deliberate way in order to make family planning (and the training of community midwives) a component of other programmes (and therefore other funding sources as well). Getting family planning systematically into post-natal services (offered both by community midwives and by fixed facilities) would be a vital activity directly linked to maternal and child health outcomes and it offers potential new funding sources and programme partners. This approach may help identify new partners or channels of support for family planning as well.

b. How to maximise impact from the life-saving drugs programme

UNFPA Supplies currently spends 22 percent of its commodity resources on life-saving drugs. The evidence is clear that although these drugs may save lives, they are used in a very narrow setting

where a minority of maternal deaths occur. The FMoH intends to expand access to misoprostol at the community level through community midwives. UNFPA Supplies has a choice as to whether it continues to fund three drugs to supply hospital level deliveries or to invest in expanding the misoprostol policy. This would require increased commodities and expanded training programmes.

To make a decision about what steps to take in the future, it might be helpful if UNFPA conducts an impact assessment of its current programme of life-saving drugs and evaluates the potential impact it could have on reducing maternal deaths by supporting the roll-out of misoprostol. It might also find it useful to start engaging the MoH and NMSF jointly in a discussion about NMSF gradually taking over more responsibility for funding the oxytocin and magnesium sulphate as part of the free drugs programme.

5 ANNEXES

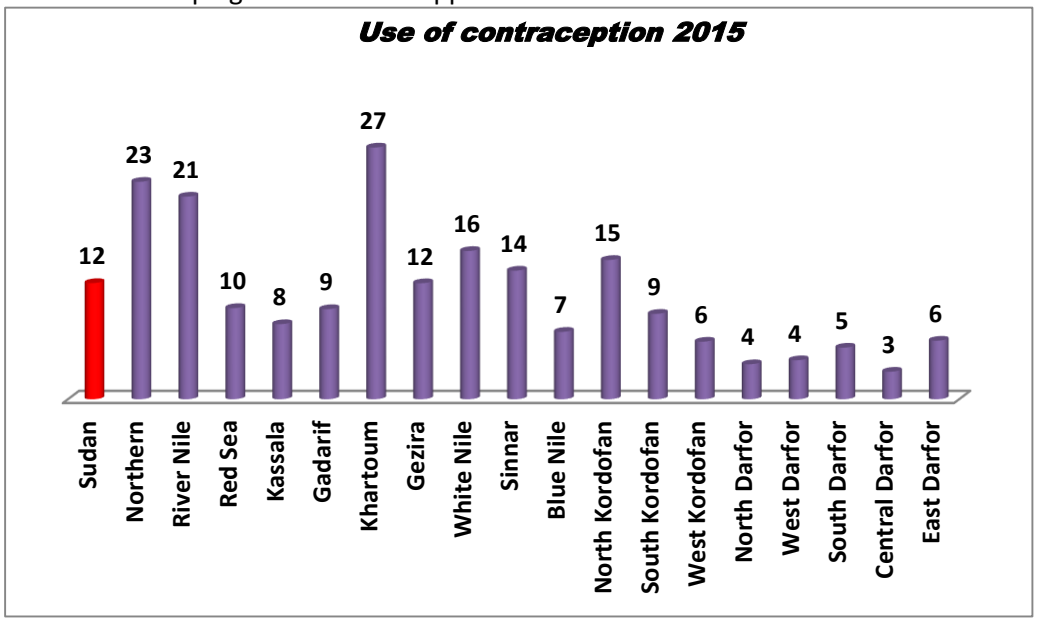
5.1 Annex 1: Evaluation Matrix

8.1 - An enabling environment for Reproductive Health Commodity Security and Family Planning	
Evaluation Question 1:	To what extent has UNFPA Supplies contributed to **creating and strengthening an enabling environment for RHCS/FP** at global, regional and national level?
Sub-Questions:	a) To what extent has UNFPA Supplies been effective in **engaging with global and regional partners to secure commitments and mobilize resources** in support of country needs in RHCS/FP? b) To what extent has UNFPA Supplies been effective in **advocating with national partners** so that RHCS and family planning are **integrated into** and **prioritized in national budgets, programmes, and health policies and strategies** (including guidelines, protocols and tools)? c) To what extent has UNFPA Supplies been effective in s**trengthening and participating in coordination mechanisms** at all levels to ensure support and programming aligns with **global and national strategies to expand access to RH/FP commodities and services**, especially (but not exclusively) for poor and marginalized women and girls and other new users? d) To what extent has UNFPA Supplies been effective in a**dvocating for and supporting a total market approach** strategy for marketing of family planning commodities and services?

Question 1: Key Assumptions and Observations	Sources of Evidence
Assumption 1.1: UNFPA Supplies **advocacy efforts** at global, regional and national level **are coordinated and aligned with national and global strategies** to **expand access to RH/FP services and commodities.**	
Support to the development of national plans, priorities and strategies Pledge of support by the President of Sudan (Bashir) to the Global Strategy for Women's Children's and Adolescents' Health 2016-2030. Specifies women's, children's and adolescents' rights to: basic health and a full range of services; full coverage on national insurance by 2020; achievement of the Abuja target by 2020.	Pledge document signed by the President of Sudan, 7 September 2015 and included in the publication of: ***"10 in 5" Strategy*: RMNCAH Strategic Plan 2016- 2020**, General Directorate of PHC, FMoH, Republic of Sudan, September 2015

Question 1: Key Assumptions and Observations	Sources of Evidence
Sudan **"Ten in Five" Strategy**: National Strategy outlining ten priorities for basic health care provision for women and children in Sudan. Ten Priorities include: Universal coverage of a full package of RMNCAH activities; Quality of services; Investing in the Newborn; Scale up nutrition; Reduce financial barriers; Strengthen the health system; Generate evidence; Strengthen Partnerships; Empower families and communities. (pp.32-40) Family planning and maternal mortality feature in the Strategy for example: *"Family planning uptake has also increased from 9 percent (SHHS2010) to 12 percent (MICS 2014) – despite the small increment, it is of significance as the contraceptive prevalence rate has been almost stagnant for more than two decades." (p.18)* *"With regard to maternal health commodities, a major area of concern for national governments has been the availability of family planning commodities and life-saving maternal/reproductive health medicines at health service delivery points. Cognizant of this fact, 2 rounds of surveys were conducted in 2014 and 2015 covering 464 and 747 facilities respectively, to assess availability of modern contraceptives and essential lifesaving reproductive, maternal and child health drugs. In view of the needs identified, 400 fully equipped delivery rooms and 300 ambulances were distributed to all states." (p.27)*	***"10 in 5" Strategy*: RMNCAH Strategic Plan 2016- 2020**, General Directorate of PHC, FMoH, Republic of Sudan, September 2015
National Strategy **Family planning is mentioned in the activities associated with the "Ten in Five" strategy** including training in long acting methods for doctors and nursing sisters. However, in the main text of the strategy is not mentioned directly and in associated activities: • Spacing births is not mentioned in the Ten in Five strategy • Family planning as a means to delay pregnancy is not mentioned as a core strategy to support infant and child nutrition. These and other gaps indicate that there is no association in the main national PHC strategy document between family planning and maternal, infant, and child health.	***"10 in 5" Strategy*: RMNCAH Strategic Plan 2016- 2020**, General Directorate of PHC, FMoH, Republic of Sudan, September 2015
The enabling environment in Sudan is highly complex and includes several emergencies. There are advanced humanitarian needs, few other partners, a high burden of female genital cutting, early/ child marriage and low demand for family planning. Demand for services is slowly increasing.	Note of Interviews with UNFPA Sudan leadership, 15 and 17 October 2017, Khartoum.

Question 1: Key Assumptions and Observations	Sources of Evidence
Main change needed in the sector is to **move family planning from a health issue to one of national development**. Reshape demographic future of the country with high level advocacy. Does UNFPA have what's needed to pursue high level advocacy? Skills: yes; capacity: quite a lot; Access to government: UNFPA has gained respect in the last few years under the current leadership. There is also support for/ from the National Population Council. There is little advocacy programming in the current cycle but high level advocacy planned in the next cycle especially through building evidence.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Family planning strategy UNFPA will support the MoH to develop a focused family planning strategy.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
RMNCH Roadmap 2012-2015 *"CPR was stagnant around 7 percent for almost the last two decades with a minimal improvement in 2010, reaching 9 percent. The unmet need for family planning in 2006 is low at 5.7 percent but the national unmet need has increased to 29 percent in 2010 […this] change reflects the efforts exerted by the MoH and partners at federal and state levels to advance the community awareness on the importance of using family planning methods for improving the health of both women and children. Moreover, the increase on unmet need challenged the MoH to reduce it through creating initiatives and designing awareness programs addressing the community concerns."* *"Government of Sudan successfully developed '*A Road Map for reducing maternal and newborn Mortality in Sudan 2010-2015*' where they were able to identify that implementation of maternal and newborn health programs in the Sudan is confronted by many challenges, such as: (1) Unclear policies concerning practice regulation and inadequate financial resources, (2) imperfect health systems, with weak referral systems , especially during obstetric and neonatal emergencies (3) unreliable logistics system for management of drugs, family planning commodities and equipment, and (4) lack of co-ordination among partners."* *"Ensuring effective family planning program with secured RHCs including essential drugs for maternal survival has been identifies as a key strategy for reducing maternal and neonatal deaths and disabilities. This has been clearly stipulated in FMOH-UNFPA CP" (extracts from pages 2-4)*	National Reproductive Health Commodity Security Strategy and Operational Plan 2012 -2015, National Reproductive Health Programme, Khartoum, 2012.
Integration of services identified as a priority *"…the EPI program is highly focused with a high coverage and reach across the country; there are missed opportunities to deliver other child and maternal health interventions on the same platform. Missed opportunities to use resources available through donor supported HIV/AIDS, TB-HSS, Malaria and EPI to*	Joint Assessment of Sudan's National Health Sector Strategic Plan (NHSSP, 2012-2016) January 2013

Question 1: Key Assumptions and Observations	Sources of Evidence
strategically deliver other components of the health system based on an integrated approach. It is important that vertical programs be further explored and integrated (e.g. EPI while program focuses on sustaining coverage and quality of services, it can address inequities; gender, social, economic-driven disparities, deliver other child health services systematically rather than ad-hoc services) and country should evolve plan more strategically by using platform of successful vertical programs as an opportunity to integrate health services. Ensure plan clearly reflects strategic interventions to deliver minimum package with the appropriate indicators to measure and monitor change over time. Missed opportunities to use existing strengths of the functional CCM to further strengthen the NHSP." (p.52)	
Contraceptive prevalence is growing for the first time Contraceptive prevalence has shifted from 9 percent in 2010 to 12 percent in 2015. There is a large variation between provinces. But the growth in CPR is the first upward shift noted for a long time and the MoH credits UNFPA with helping to make this happen.  	Knowledge Attitude Practice Survey, Ministry of Health, Sudan, 2015.
Assumption 1.2: Drawing on global, regional and national sources for financial support, **national health authorities have been able to achieve (and to varying degrees, sustain) increased budget allocations** and expenditures for RHCS/FP.	

Question 1: Key Assumptions and Observations	Sources of Evidence
UNFPA role UNFPA role should be to advise, guide, advocate but there are no other partners or funds for FP in the country and thus she thinks UNFPA has to do a lot more.	Note from interview with UNFPA Senior Leadership, 17 October 2017, Khartoum.
Approach to Activity Planning: Annual workplan development is undertaken by the MoH Reproductive Health unit. Once they identify their priorities and plans, they sit with UNFPA and negotiate/ discuss what can be covered/ supported by UNFPA. The Reproductive Health unit then prepares a financial request.	Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
Priorities included broadening range of donors/ funding **Expected Result 1** By the end of 2015; ensure availability of more funds for RHCs and supplies with focus on FP **Product 1.1:** By the end of 2015; new funding sources have been established at national and state level for RH commodities **Product 1.2:** By the end of 2015; revenue-generation and cost-recovery schemes have been introduced in support of RHCS	National Reproductive Health Commodity Security Strategy and Operational Plan 2012 -2015, National Reproductive Health Programme, Khartoum, 2012.
UNFPA is the only organisation supplying family planning commodities to the public sector in Sudan. Commodities are donations in kind and include both family planning commodities and three life-saving drugs for maternal health (magnesium sulphate, misoprostol, and oxytocin). Supply of commodities accompanied by activities aimed at improving the supply chain and strengthening demand.	Note from the Interview with UNFPA, 15 October 2017, Khartoum.
Enabling environment There is 12 percent CPR and demand creation is a priority although there is already 26 percent – 29 percent unmet need. Enabling environment Is "limited". UNFPA is the only provider to the public sector in Sudan of family planning commodities and two of the lifesaving drugs (misoprostol and magnesium sulphate). Neither the Government of Sudan nor the National Medical Supplies Fund (NMSF) procure these commodities.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Enabling environment *"… access to basic health services remains low, covering 40 to 50 percent of the population and regional disparities are particularly acute as health facilities are unevenly distributed. Mortality rates vary significantly across states and are markedly high in peripheral states. The child mortality rate (deaths per 1,000 births) is highest in Darfur (170), and lowest in Gezira state (63), while the national average is 111. The maternal mortality rate per 100,000 ranges from 106 in Sinnar State to 335 in South Darfur* *(2010 Sudan Household Health Survey)." (p.19)*	International Development Association, Interim Strategy Note, (FY 2014-2015) for the Republic of Sudan, 30 August 2013, World Bank, Washington D.C.

Question 1: Key Assumptions and Observations	Sources of Evidence
Lessons learned include: *"Identifying mechanisms for effective gender mainstreaming in analytical and operational activities is critical to ensuring equitable access to and benefit from project interventions... In addition to project design, gender should feature prominently in supervision and implementation support, monitoring and evaluation and in policy dialogue with government, civil society and the private sector.' (p. 25)* Programme aims to support economic growth and address the underlying roots of conflict, especially in the poorest areas such as Darfur. Supports expanded service infrastructure which underpins the extension of access to services. World Bank Support to the health sector: *"will continue on-going policy dialogue and technical assistance based on the Bank-supported Health Status Report (2012). The government's health sector programs have relied heavily on the Bank's analytical work to steer reforms that favour the poor and seek to assure equitable access. Bank analytical work on a health sector PETS (completed), and technical assistance to expand the pilot national health insurance to rural areas, and free health care for pregnant women and children under 5 (on-going), will provide lessons for government to improve service delivery and ensure greater access and benefits for the poor and vulnerable groups across the country. In addition, the Bank will provide technical assistance to conduct surveys on health infrastructure, human resources, and pharmaceuticals in the Darfur states in order to identify needs and develop recovery strategies, operational plans and implementation modalities. Government implementation of these strategies is expected to expand access to community-level, primary health care and first referral services to underserved populations in select states, including Darfur." (p.31)* For example: *"In four states targeted by MDTF-NS activities, data from health facilities show that between 2009 and the end of 2012, the number of outpatient consultations per person per year increased from 0.16 to 0.30; the proportion of pregnant women attending at least one antenatal care consultancy increased from 48 percent to 69 percent; and the proportion of total births attended by skilled health staff (including trained village midwives) increased from 19 percent to 51 percent. Access to, and use of health facilities have improved noticeably following the construction or rehabilitation of 127 health facilities, training of some 2,703 health professionals and the provision of medical supplies. The MDTF-NS-funded a Health Status Report informed the government's Health Sector Strategy (2012- 2016). (p.48)*	
Assumption 1.3: National **programmes, policies and strategies** (including guidelines, protocols and tools **prioritize improving access** to RH/FP services and commodities, including access **for poor and marginalized women and girls**.	
Adolescents – GoS policy	***"10 in 5" Strategy*: RMNCAH Strategic Plan 2016- 2020**, General

Question 1: Key Assumptions and Observations	Sources of Evidence
"The RMNCAH plan will improve and provide quality adolescent services to ensure that adolescents progressively develop the health knowledge and practices needed for a productive and fulfilling life. Due priority is given to their health issues and the availability of youth-friendly services, well integrated into the existing RMNCAH services. This will encompass interventions for establishment of new adolescent friendly centers in coordinate with Ministry of Social Welfare, addressing the major health issues of this sensitive age group including life style practices associated with non-communicable diseases, sexually transmitted diseases, and combating harmful traditional habits (FGM and Child marriage). Likewise, school health services will be strengthened through annual medical screening for school children, initially in 10 states. The school setting will be optimally utilized as a health promoting environment for addressing key health issues and needs of children and adolescents at school age, and will provide a platform for establishing a surveillance system for common childhood illnesses among school children in 10 selected states." (p.34)	Directorate of PHC, FMoH, Republic of Sudan, September 2015
Adolescents and target groups Sudan Family Planning Association is the largest family planning organisation in Sudan outside the MoH/ public sector. Established in 1965 and now part of the IPPF network, SFPA is a member of the Reproductive Health Commodity Security committee in Sudan. Other members include the NMSF, IPPF, Pharma directorate, UNFPA, Reproductive Health Unit/MoH, some private sector groups, including drug companies, Sudan Fertility Care (a small NGO). **The full package of services offered by SFPA includes:** • FP counselling and dispensing • ANC • Maternity care and delivery • PNC • Post abortion care and MVA for incomplete abortion • GBV related services • HIV and STI testing • Child health • Immunisations • Nutrition and growth monitoring • Gynaecological services • Laboratory testing	Note of visit to Sudan Family Planning Association and Alta Widet Clinic in Khartoum North. 17 October 2017.

Question 1: Key Assumptions and Observations	Sources of Evidence
Target population includes poorest and most marginalised women, adolescents everywhere and in Jazera the clinic has special afternoon opening hours (2-6pm) for access by MSM, sex workers, people living with HIV. Mandate of the SFPA is to provide SRH services to all people irrespective of age, ability to pay, sexual orientation etc. No use of the word 'criminality', illegal etc.	
Adolescents and girls Adolescents are attended only if they are mothers/ pregnant/ married or transferred as an emergency. There is a family planning service in a small room and is fully stocked. An enthusiastic family planning provider (a nurse) is qualified only to distribute pills and injectables. But she said she would be keen to be trained to do more. There are plans to expand the family planning service in the future.	Note of Interview with medical director and observation at Al Saudi Maternity Hospital and hospital
Adolescents and girls Al Hidaya is a PHC centre that delivers family planning and ANC but not maternity services (no deliveries or post-natal care). The RH clinic takes a syndromic approach. They treat whoever comes for whatever is needed. The staff asks every woman asking for FP if they are married and they all say yes. There are two days a week set aside for FP/ANC (Mon and Wed) but anyone can get FP anytime.	Note of interview and observation at Al Hidaya PHC Centre in Kassala, 23 October 2017.
Adolescents UNFPA does not have a specific strategy regarding family planning and reproductive health services among adolescents. It focuses on social norms change.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Vulnerable groups *"The "Ten in Five" strategy grants significant consideration to vulnerable groups, ensuring that they are reached with essential RMNCAH services. These include the nomadic populations of all state, as well as those who live with disabilities or in crisis situations. Moreover, the strategy envisions that every woman will be empowered and supported to enjoy her rights and overcome all social and legal barriers that harm her physical, mental and emotional health and well-being." (p.34)* *"Care provision within the community setting will be further enhanced by expanding the use and provision of life saving intervention (MG sulphate and misoprostol) at community level to cover an additional 10 states." (p.34)*	***"10 in 5" Strategy*: RMNCAH Strategic Plan 2016- 2020**, General Directorate of PHC Federal Ministry of Health Republic of Sudan, September 2015
Meeting needs of vulnerable groups *It is important to ensure a good combination of fixed, outreach and mobile delivery modes to improve access to basic health services for specific vulnerable groups (in concurrence with mobile populations), especially nomads, IDPs, returnees and refugees. (p.19)*	UNDAF preparation: Common Country Analysis for Sudan Desk Review, Draft – April 2016, Khartoum.

Question 1: Key Assumptions and Observations	Sources of Evidence
SFPA targets hard to reach and nomadic communities SFPA has four mobile clinics with three more on the way. They use these mobile clinics to target hard to access communities such as nomadic populations in order to deliver a basic package of primary health services including reproductive health. One of the clinics was standing in the SFPA yard and was inspected by the evaluation team. It is spacious, offers privacy and can store drugs and commodities safely.	Note of interview with SFPA, 17 October 2017, Khartoum.
RH integrated into FGM and Child Marriage Social norms change *"The MoGE coordination council is a separate co-ordination body for the Almawada wa Alrahma initiative focusing on reproductive health, child marriage and FGC. It consists of a range of members including representatives of government and NGOs, as well as religious leaders. State Councils of Child Welfare (SCCWs) are represented, and in turn, MOGE is represented on the state task forces." (p.16)*	Sudan Free of Female Genital Cutting (SFFGC), Annual Program Review, March 2016, DFID, UK
UNFPA puts a lot of effort into making sure commodities are available in Sudan. They support activities like training, new systems for Reproductive Health Commodity Security systems, and logistics management. They also support counselling around the insertion of implants.	Note of interview MoH Senior Official, 19 October 2017, Khartoum.
Regional context: Sudan in ASRO *"…although **early marriage** is on the decline in the Arab world, the number of young teenagers who are married before the age of 18 is still significant, particularly in Yemen (32* percent*), Somalia (45* percent*), Sudan (33* percent*) and to some extent in Egypt, as well as among Palestinians living in Gaza. This leads to early childbearing and poses serious risks to the health and welfare of mothers and children.* *… Young women bear the brunt of the socially determined harmful practice in some Arab countries of **female genital cutting/mutilation.** The prevalence rate is staggeringly high in Somalia, Sudan and Egypt. Recent data on FGC/M in Egypt show that younger age groups have a lower prevalence, with 56 percent of girls in the age group 10-14 being circumcised compared to 92 percent of young women in the age group 22-29 (Population Council, 2010).* *…**Emergency Context**: The Arab region has been witnessing conflicts and wars for the past few decades, amplified by major uprisings in 2011 in several countries. Some of these have resulted in changing regimes and paved the way toward democracy and social justice. An estimated 65 percent of young people in the Arab region live in countries where most of the region's humanitarian crises occur."*	United Nations Population Fund, Regional Programme Action Plan for Arab States Regional Office 2014-2017, July 2013. *(p.8)*
Regional UNFPA support to UNFPA Sudan for top strategic objectives: (From Strategic Outcome 1*) … SRH services will be delivered in a comprehensive package depending on the resources available at each country. In least developed countries such as Djibouti, Somalia, Sudan and Yemen the*	United Nations Population Fund, Regional Programme Action Plan for Arab States Regional Office

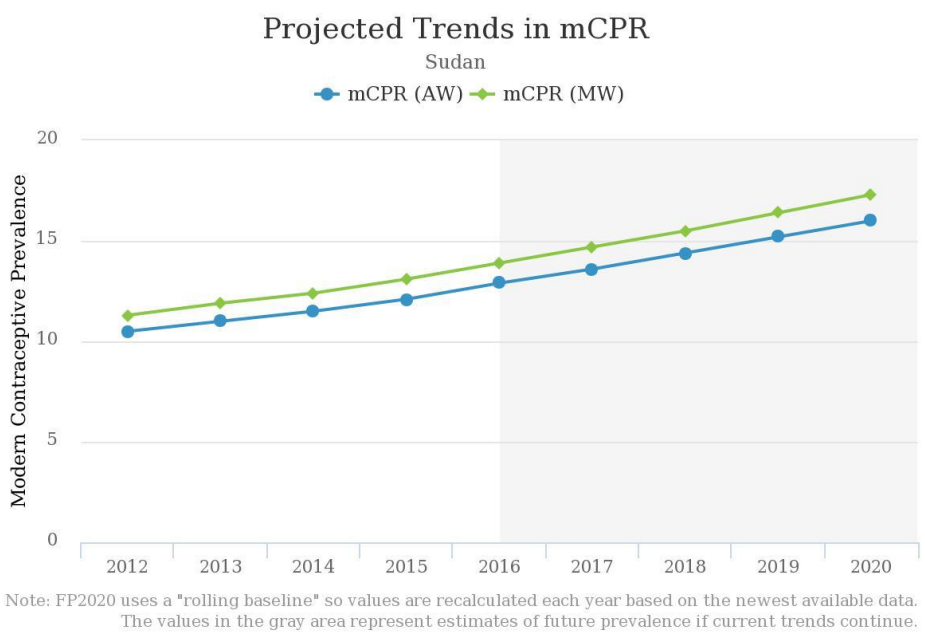
Question 1: Key Assumptions and Observations	Sources of Evidence
minimum package, in addition to the prevention and treatment of obstetric fistula should be provided. Family planning services, including counseling, should be integrated in all SRH packages of services." (p.13) From which flows a number of outputs around knowledge generation, advocacy, policy etc. such as: ***Output 1.2: UNFPA COs, policy makers and national partners are better equipped to reposition FP within the region through innovative approaches, generated evidence and high-level advocacy*** *Repositioning family planning to reduce unmet need for modern contraception and fulfil reproductive rights of couples and individuals is an important area of UNFPA work in the Arab region, which supports the global commitment on Family Planning 2020.* ***Strategic interventions:*** *ADVOCACY and POLICY* ➢ *Evidence-based advocacy for Family Planning with focus on positioning FP with the focus on **changing/ mitigating the erroneous perception of family planning** as a driver of low fertility. The Regional Program will support country offices with high-level evidence based advocacy at the regional level through existing platforms such as the Islamic Center for Population and Development in Al-Azhar and by identifying new partners.* ➢ *Support countries in **strengthening RHCS (LMIS, procurement and supply)** in the region. Already many countries, both middle income and less developed countries are identifying the need. Algeria, Morocco and Yemen have submitted requests.* Other Strategic Outcomes and associated policies are around population health including barriers such as child marriage, FGM, access to services, rights, youth and adolescents, etc.	2014-2017, July 2013.
Assumption 1.4: National authorities are receptive to a **total market approach strategy for RH/FP services and commodities** which encourages **increased participation by NGOs, civil society and the private sector** and potentially can contribute to **improved marketing and increased demand**.	
The private sector is an important partner but not yet fully developed. It's "*urgent to make more progress*" according to the logistics officer: "*There are women who have five or six children by the age of 21 or 23. They look 40 because they are so tired*."	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Services are offered through a range of delivery points including: - 13 or 14 fixed delivery clinics offering a full range of SRH services as above. - A number of satellite clinics which offer a package of eight basic services and referral where needed. - Seven mobile clinics donated by the DKZ (Germans) and set to expand by 2 more from JICA this year in order to focus on Jazera and Kassala. One mobile clinic requested from UNFPA. Mobile clinics offer a basic package or eight services (FP, ANC, STI/HIV testing, - 120 service delivery points in collaboration with the MoH (at public health facilities) - 685 community based service providers (midwives)	Note of visit to Sudan Family Planning Association and Alta Widet Clinic in Khartoum North. 17 October 2017.

Question 1: Key Assumptions and Observations	Sources of Evidence
- Six social franchising centres offering services at low cost. - Over 100 private clinics and providers - Over 100 local NGOs These services are delivered in ten states through 11 branches (N. Khordofan has two branches) and there are two new branches under discussion. Some of the satellite clinics are in the IDP camps for example, Abu Shouk in north Darfur where SFPA is the only service provider for SRH in the whole camp. Products are obtained from UNFPA including all implants and a portion (unknown but about half) of all other commodities for FP from UNFPA. The rest comes from IPPF directly.	
Innovation to reach the marginalised Midwives use the innovative **ticket system** to help clients get access to services (Dr Nouhaa's innovation/ idea): they give a ticket rather than write a prescription. The community midwives cannot always write or have paper/ pens. The ticket says the pills are "free". The client takes the ticket to the health facility or the local pharmacy and exchanges it for three cycles of pills. The community midwife does not do injections.	Note of interview with Ministry of Health Senior Official, 19 October 2017, Khartoum.
Confusion of public and private sector products Family planning – there are the same named products on the market in the private sector. The packaging is a little bit different but not very. It costs SDG 30 (1.50 USD) for the India brand and SDG25 for the Pakistani version. Main request from NMSF is that the UNFPA commodities should have "FREE" written on them to help prevent leakage.	Note of interview and observation: NMSF Kassala State headquarters and warehouse, 23 October 2017, Kassala
8.2 – Increased demand for RH commodities by poor and marginalized women and girls	
Evaluation Question 2: To what extent has UNFPA Supplies **contributed to increasing demand for RH/FP commodities and services,** including demand by poor and marginalized women and girls in keeping with their needs and choices (including in humanitarian situations)?	
Sub – Questions: Has UNFPA Supplies **advocated effectively for policies and programmes to strengthen demand and address barriers to access** (including but not limited to harmful socio-cultural norms) while taking account of the needs of marginalized women and girls? Has UNFPA Supplies been effective in **supporting engagement by community leaders, service providers, adolescents and women to build demand and address barriers to access**? To what extent have policies and programmes supported by UNFPA Supplies contributed to **improving knowledge and attitudes, reducing barriers and improving the capacity** of women and girls **to demand services and exercise choice** in accessing RH/FP commodities in a range of settings?	

Question 1: Key Assumptions and Observations	Sources of Evidence
From 2017, with UNFPA Supplies **no longer providing direct support to increasing demand**, what processes and mechanisms have been/will be used to **ensure that improvements in supply complement and are coordinated with demand generation actions of partners**?	

Question 2: Observations	Sources of Evidence
Assumption 2.1: UNFPA COs **advocate effectively for sustainable policies, programmes and investments addressing socio-cultural norms and other barriers** to improve **the knowledge and capacity of marginalized women and girls to demand access to RH/FP commodities**, including through community engagement and use of a total market approach.	
Demand creation at community level around FP is undertaken by UNFPA in target areas/ states with community groups/ leaders, religious leaders, women's groups including women's support groups, and critically, with midwives and health workers. A **whole of community approach is adopted** rather than just targeting one group or another group although the role of community midwives is critical in terms of their capacity, skill, authority and inclination to provide services.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Community mobilisation The lack of more community mobilisation/ the need for broad, effective community mobilisation was identified by the MoH Reproductive Health Team as a high priority and a main barrier to building demand.	Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
UNFPA Supplies support to national supply chain In the last few years – UNFPA has mainly had a **commodities and supply chain focus** with some training of trainers. The main improvement brought by UNFPA has been strengthened commodity security through the new systems. The health visitor used to have to take commodities from the central locality store and hand them out as she slowly made rounds to the facilities. It could take a year. Now the NMSF distribution system changes a lot. Her biggest **request is for support to do mass media** – in pictures, radio and IEC programmes – around FP use, family care and ANC attendance. Says this is in the new CPAP with UNFPA.	Note of Interview with the Ministry of Health Senior Official, 19 October 2017, Khartoum
Mainstreaming family planning into social norms change Over 95 percent of girls were subject to **female genital mutilation and cutting (FGM)** in Sudan until recently and numbers have dropped to about 70 percent as a result of focused, sustained efforts encourage communities to abandon the practice.	Gender and Development Team, UNFPA Sudan, 15 October 2017.

Question 2: Observations	Sources of Evidence
The UNFPA Gender and Development programme (not funded from UNFPA Supplies) focuses on policy formulation/ analysis, strategies, capacity building, community engagement and knowledge management related to the cultural barriers affecting the lives of girls and women especially. The programme introduces/ integrates a "***concern for family planning*** *in all that it does*" since that is a fundamental part of shifting social norms and demographic development. There is evidence of progress since **the "*silence is broken*" on FGM, child marriage, RH** and conservative communities are more willing to talk about these issues. UNFPA advisers spoke about an example in Al Butani in Gadaref state, where UNFPA funded a respected person to talk to religious leaders about these issues. After some time, he became aware that the things were changing and attended a meeting where men on one side and women on the other side were talking about FCGM openly. He says that UNFPA tries to introduce sensitivity training for midwives about FCGM. There is no specific law about FCGM or about child marriage in Sudan (yet). Marriage should be over 18 but frequently girls as young as nine are married.	
Demand creation and awareness The problem is that we needed to work more on demand creation. There is a low CPR. WHO only does technical support. The new CPAP has some demand creation. 16 percent CPR in 2018 is the target; 20 percent by 2020 is the medium term objective.	Note of Interview with the Ministry of Health Senior Officials, 19 October 2017, Khartoum
Progress on modern Contraceptive Prevalence Rate Trends in CPR anticipated in Sudan up to 2020.	www.track20.org

Question 2: Observations	Sources of Evidence
 Source: http://www.track20.org/pages/countries_country_page.php?code=SD	
Assumption 2.2: UNFPA Supplies supports policies and programmes including effective community engagement to **directly address socio-cultural barriers to improving the knowledge and ability of marginalized women and girls to demand appropriate RH/FP commodities of their choice**.	
Barriers to demand for Family Planning Demand generation is closely linked to access. There is 29 percent unmet need in Sudan. But women in the clinic for antenatal care or their children's health needs have no demand or awareness about family planning. Other women, when asked, say they don't want to be pregnant but they don't know about family planning services. Demand and access are inter-related. Awareness is vital but not sufficient.	Note of interview with UNFPA senior leadership, 17 October 2017, Khartoum.
Barriers Women in remote areas, low literacy, poor access to services. Also women are reluctant to use FP, lots of legal issues around sexuality, abortion etc.	SFPA note of meeting, 17 October 2017, Khartoum
Perceptions and knowledge about family planning Attitudes towards family planning were measured around the following themes:	Knowledge, Attitude, Practice Survey, Baseline KAP study on

Question 2: Observations	Sources of Evidence
• **Benefits of family planning for the family:** 71.9 percent of the respondents think that Child spacing and limiting is good for the whole family. **Acceptability of family planning :** 61.1 percent of the respondents said that Child spacing and limiting is acceptable by their culture. Only 54.5 percent of the respondents think that family planning is acceptable by their religion • **Selection of family planning method:** only 54.5 percent of the respondents think that the type of Child spacing or limiting method should by selected in consultation of health care provider • **Accessibility of family planning methods :** 73.1 percent of the respondents stated that family planning methods are easily accessible • **Affordability of family planning methods :** 57.6 percent of the respondents agreed to the statement that is "Child spacing or limiting methods are affordable" • **Safety of family planning methods: only** 47.9 percent of the respondents believe that family planning methods are safe. • **Decision making on** Child spacing or limiting in the family: 77.0 percent of the respondents believe that decision on Child spacing or limiting should be discussed by wife and husband **Practices relating to family planning** • Less than one third of the married respondents (28.4 percent) said that they ever wished to space or limit the number of children. • The highest level of demand on FP was observed in Khartoum state (43.2 percent), followed by North Darfur (33.4 percent), and River Nile State 32.2 percent. • Lower levels of expressed desire to space or limit the number of children were documented in Blue Nile (19.2 percent) and Al Gadarif State (16.8 percent) • The reported demand on FP was higher among the urban respondents (35.2 percent) compared to the rural ones (26.3 percent) • More Females (33.0 percent) than males (23.5 percent) expressed desire to space or limit the number of children. • The unmet need for family planning among married women in reproductive age is estimated to be 39.2 percent • The most common reasons of non-use of FP methods mentioned were: Fear of side effects (26.0 percent), not allowed by local culture(12.9 percent), lack of knowledge of family planning methods (12.6	RMNCH/FGM related issues in Sudan, Directorate of Family Health, Ministry of Health, Sudan. No date on draft document but either 2015 or 2016.

Question 2: Observations	Sources of Evidence
percent), spouse was unwilling (12.3 percent), not allowed by religion (4.1 percent),and lack of knowledge about where to get the method (4.0 percent), • Other less mentioned reasons of non-use of FP methods (Below 4.0 percent) were: preferred method was not available, far distance, and could not afford the cost.	
Perceptions about family planning There is a misperception about family planning among many people in Kassala, especially Habesh Qoreb. Some of it is religious and some is a misunderstanding about what family planning is.	Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Perceptions about family planning A lack of awareness is reported as the main barrier to demand for family planning in North Darfur as well as a misperception about family planning (that it will lead to permanent infertility for example). During 2005-2012, family planning was not accepted among IDPs in camps, and the reason was related to perception of people that it was intended to decrease the population (i.e. suspicion of health authorities). Over time and with the careful efforts of organizations working among them, this perception has started to slowly change. For instance, in Abu Shouk camp (274,000 people) UNFPA trained more than 92 midwives and provided them with contraceptives. In another example, MSF began using non-cash incentives approach to encourage midwives to provide reproductive health services in camps, including family planning.	Note of field visit to North Darfur State, 21-23 October 2017.
Perceptions about family planning Clients interviewed at Al Fashir hospital said that they did not want family planning because they thought: • Mini and combined pills cause hair loss • IUD causes permanent infertility • Implants dissolve into the body and causes health problems.	Note of field visit to North Darfur State, 21-23 October 2017.
Weak demand **SFPA aims to have at least three methods of FP in all its sites**. In the clinic visited (name of clinic: Alta Widet), they had: **Implants, injectables, mini pill, compound pill, IUD** and (at the back of the cupboard, unopened), a box of **male condoms**. The sister was able to dispense any of these methods. She sat behind her desk **waiting for clients**. She was not outside drumming up business. She had seen eight clients that day. There were over a hundred women in the clinic during the visit and it was clearly a very busy day because on Wednesday they offered free ANC services. There was a GP and a Gynaecologist on site.	Observation note, visit to Alta Widet Health Facility, Sudan Family Planning Association 17 October 2017, Khartoum.

Question 2: Observations	Sources of Evidence
Weak demand Demand for and awareness of family planning services remains low among young mothers even when they have good access. In the photo below, taken at Alta Widet PHC Clinic, none of the 25 women in the frame (or the forty others outside the frame) were waiting for family planning services (although these were free). They were waiting for ANC or to see the doctor.	Photo taken on 17 October 2017 at 12 noon, Alta Widet Clinic, Khartoum.
Barriers to demand for assisted births: IDPs in the Abu Shouk camp believe it is better to deliver their babies at home with a community midwife. However, there is only one health site to serve the whole camp. There is poor transportation and the health site is situated very far from some parts of the camp.	Note of field visit to North Darfur State, 21-23 October 2017.
Challenges facing reproductive health for women in Sudan: access to quality services; three delays; accessibility; well oriented people centred programmes HMIS to provide accurate information on progress and gaps (for example, MMR is hard to track); MICS 2014 is most recent survey. DHIS2 is being implemented in localities – at district level – but it is slow and the computers for training are just arriving. Still mainly using a paper system so quite unreliable. There is no specific maternal mortality reduction strategy or maternal health policy that WHO knows of.	Note of interview with WHO-Sudan Reproductive Health Team, 18 October 2017, Khartoum.
Fistula There is a pervasive problem with fistula in Kassala. It will improve when girls don't marry so young. Almost 100 percent of girls were circumcised before. Now running "around 68 percent".	Note of interview and observation: NMSF Kassala State headquarters and warehouse, 23 October 2017, Kassala
Demand for Maternal Health services 16 rural hospitals in Kassala but only 3 (Halfa, Geerba and Saudi) do Misoprostol. PPH accounts for 26 percent of mortality but eclampsia, sepsis and – in Halfa – Jaundice probably from Hep E are all common as well.	Note of interview with Reproductive Health Team, State MoH, Kassala, 23 October 2017.
Home delivery still prevalent At least 76 percent of women deliver their babies at home	MICS 2014, UNICEF and MoH, Khartoum, 2014.
Assumption 2.3: UNFPA Supplies support to increasing demand **in partnership with governments and others for RH/FP commodities** complements and is coordinated with support from other sources at national and sub-national levels.	

Question 2: Observations	Sources of Evidence
Demand creation UNFPA says it uses core resources to continue doing demand creation work for reproductive health. Demand generation **is critical because illiteracy is high, access to services is poor**, especially at primary level. Advocacy for innovation (using midwives to deliver family planning services) and support to health centres to mobilise community/ religious leaders are all part of their demand generation activities. There are **cultural issues** too – men are reluctant to use condoms or family planning generally. There is a **fear of family planning side effects**. One impact is that UNFPA has worked on training community pharmacists to dispense family planning (pharmacists from the NMSF pharmacies for example). Husbands need counselling and advocacy.	Note from interviews with the UNFPA Reproductive Health Team. 15-18 October 2017, Khartoum.
Link to community groups The MoH is also working with Ministry of Welfare and Women's Union. The Women's Union is a network of community based women's groups – so far the messages have been distributed to four states. The biggest challenge is to advocate around family planning as an economic development activity. But maternal mortality is high and infants die so the better approach to take with people is that they should **space births to protect lives**. It is better to build up families by having fewer strong children that survive and thrive than by having lots of children in the hope that some survive. The President has made a commitment to FP and has said "Whoever saves one life, saves the whole community".	Note of Interview with the Ministry of Health Senior Official, 19 October 2017, Khartoum
Clean delivery kits The kits from UNFPA come **from other funding sources** – for example, the Italians fund the fistula kits, UNFPA uses other non-core funds to distribute delivery kits to meet humanitarian needs. There is a new campaign: Manahiyaa delivered by the Min of Social Welfare jointly with the MoH. The campaign started in Khartoum and is coming to Kassala soon. It includes the assembly of local delivery kits, it covers midwives' national health insurance payments, and it pays an additional cash SDG 250 to midwives as an incentive in addition to the salary. In Kassala they have started preparatory meetings.	Note of interview with Reproductive Health Team, State MoH, Kassala, 23 October 2017.
Weak link to humanitarian needs There is a particularly weak link at state level between the MoH reproductive health and humanitarian teams. Needs "leadership and management at a high level" to drive change	Note from interviews with the UNFPA Humanitarian Team. 15-18 October 2017, Khartoum.
Most available/ accessible commodities Mainly gives **pills** (mini pill from 40 days post birth to 6 months). They will improve the space soon apparently and create a larger family planning clinic when the admin section moves somewhere else. UNFPA is making it	Note of Interview with family planning service and observation at Al Saudi Maternity Hospital and

Question 2: Observations	Sources of Evidence
into a model centre. The Assistant Health Visitor said that they also needed to raise the profile of FP in the community. A consultant has to do implants and IUD. Implant insertion and removal training will be done for the GPs and university trained sisters in the next year. On 22 October 2017, there were 13 attendees to the FP clinic. Of these 9 were first time. Out of the 13, 1 took the combined pill, 3 had an implant (they waited a long time for the consultant), 1 depo, 7 mini pills.	hospital warehouse, 23 October 2017, Kassala
On October 21 2017, 16 people attended the Family Planning/ ANC clinic. Nine were ANC patients and they got FeFol (for anaemia during pregnancy) Seven attended for family planning, two of whom were there for the first time. They all received three cycles of the combined pill, Marvelon. **Altogether in September, commodities distributed in the family planning clinic were:** 3 cycles of mini pills (Mini pills are given to women from 40 days post-partum up to 6 months.) 24 cycles of combined pills 20 Injections. Altogether about 29 people in all of September. Condoms are not included on the reporting list although they were in stock. They were handed out for HIV prevention although the health assistant said he would give them for family planning if requested.	Note of interview and observation: Al Hidaya PHC Centre, 23 October 2017, Kassala

8.3 – Improved efficiency for procurement and supply of RH commodities (global focus)	
Evaluation Question 3:	To what extent has UNFPA Supplies, through its global operations and advocacy interventions, contributed to **improving the efficiency of the procurement and supply** of reproductive health and family planning commodities for the 46 target countries?
Sub-Questions:	To what extent has UNFPA Supplies contributed to improving the **efficiency of global procurement of SRH/FP products** across all critical dimensions of performance (quality, mix, price, lead time, supplier performance, etc.)? Is there evidence that UNFPA Supplies has helped to **improve global forecasting, prequalification, pricing** and **long-term agreements** with a variety of suppliers. To what extent has UNFPA Supplies, in coordination with national authorities and partners, helped to **avoid global supply disruptions, over-stocking, over-paying, and quality issues**? Is there **evidence** of **increased choice** (prequalified suppliers and products), competitive pricing, reduced lead times, and increasing volumes distributed to key populations, including populations experiencing humanitarian crises? To what extent has UNFPA Supplies helped to **improve the global supply chain** of these commodities, and to **shape the global market** for them (influencing price, quality, innovation, and availability), using its global reach and purchasing power?

Question 3: Key Assumptions	Observations	Sources of Evidence
Assumption 3.1: UNFPA Supplies had **the necessary funding/resources made available** at the appropriate time in the 2013-2016 period to meet its mandate in procurement and supply of RH/FP commodities for focal countries.		
The sudden changes in the program design and funding affected the way the family planning and life-saving drugs support from UNFPA were delivered.		MoH-RH, 17 October 2017.
Market shaping has not reached Sudan yet No individual or organisation interviewed was fully aware of Sayana Press or any other pipeline product.		Observation following interviews across the key informants in Sudan 15 – 26 October 2017.
Effect of sanctions on method mix Sanctions had prevented the importation of Depo Provera until 2015 so for many years the only contraceptives available at the community or basic primary level were pills (and condoms, theoretically but condom demand is low, they are not procured as a family planning commodity and are not available for free in family planning clinics).		Interview with Ministry of Health Reproductive Health directorate, 19 October 2017, Khartoum.
There was a rapid, unexpected change (decrease) in budget last year which caused instability and a rapid reorganisation of priority activities. Annual workplans were delayed as well.		UNFPA RH staff, 19 October 2017
Assumption 3.2: Using its global reach and purchasing power, UNFPA Supplies **collaborates with national authorities and other partners** to **negotiate effectively with global suppliers and manufacturers** to forecast and procure quality RH/FP commodities, seeking the most cost-effective, reliable, efficient supply stream for UNFPA Supplies. This has the effect of **influencing and helping to shape the market** for these products, affecting aspects of quality, price, innovation and supply.		
Nota Bene: This assumption is addressed in the overall Evaluation Report only.		
Assumption 3.3: UNFPA Supplies actively participates in national commodity forecasting and planning processes and collaborates with national authorities to **provide appropriate commodities delivered on time to the 46 countries.** It also collaborates with national authorities and with other global and country-based partners, to ensure forecasting and supply functions are efficient and not duplicative.		
Forecasting approach Forecasting for commodity needs is done jointly with the RH Unit at MoH. The **health facility survey** (most recent one is 2014, new one being done for 2017) **guides decisions about commodity distribution**. With 11 percent CPR and 26 percent unmet need, all partners need to work together to identify those women whose needs are not being met.		Note from interview with UNFPA reproductive health team in Sudan, 15 October 2017, Khartoum
Forecasting For family planning commodities, the Reproductive Health unit does the quantification with UNFPA annually based on consumption. 2700 health facilities in Sudan receive family planning commodities. The MoH		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum

Question 3: Key Assumptions	Observations	Sources of Evidence
Reproductive Health unit and UNFPA do quantification annually but they do not have sight of actual consumption at facility level. They **rely on surveys**. They push commodity to state level (Reproductive Health Unit decides what commodity to go to each state) and then after that they lose sight of the distribution and the product – who it goes to, where, how many return etc.		
Methodology used to quantify needs: **Oxytocin** Depends on the protocol, morbidity & MDSR data **Misoprostol** Use by midwives: need program assumption for 2018 involving the regulatory authorities and MDSR reports for 2016 Haemorrhage 30.2 percent Eclampsia 16 percent **Mg Sulphate** For all health facilities deliveries 24 percent 15 percent for complications, out of it 30 percent Eclampsia **Oral Pills** Meeting agreed on the ratio of usage of oral contraceptives Combined: Mini is 80:20 considering that women use mini pills from 40 days to six months after birth **Contraceptive prevalence rate (CPR)** **CPR** in 2010 7 percent in 2014 11.7 percent**;** CPR increment 11.7-7= 4.7/4 = 1.17; 1.2*4= 4.8; Assumption is that CPR in 2018: 4.8+ 11.7= 16.5 At the end the program target will be the references **Method mix drawbacks** Injection not available for long time due to sanctions; Implant is the new method with evidence of growing preference **Implant & injections** There will be considerable increment in the use of injections & implant; Based on the above assumptions, meeting agreed on below amended method mix Implant **5.8** percent IUD **0.4** percent CoB **5.7** percent MoB **3.2** percent Inj **1.4** percent		Minutes of the RHCS Committee meeting, 12 October 2017, Khartoum.

Question 3: Key Assumptions	Observations	Sources of Evidence
Meeting agreed that this will be consider as initial quantifications, will be followed by consultation meeting with the NRHP for confirmation.		
Value of all FP commodities in 2017 will be $2,661,781 including family planning commodities for IPPF/ Sudan Family Planning Association.		Note of interview with UNFPA Reproductive Health Team, 17 October 2017, Khartoum.
Description of the Sudan Supply Chain under NMSF: The **National Medical Supplies Fund** is a large, autonomous government parastatal managed by an 11 member committee. Its role is to ensure the availability of effective and appropriate medicines at low or no cost throughout the health system where it works. The NMSF operates in 16 out of 18 states as Khartoum state and Jazera state opted out at the creation of NMSF although there is some suggestion they may opt in sometime in the future. **Mandate**: Act of Parliament in 2014 to assume responsibility for the supply of quality medicines in Sudan. Operates a pull system with quarterly distributions to 16 states. The NMSF took over the management of Global Fund commodities and GAVI cold chain some years ago and from 2016 assumed responsibility for the UNFPA commodities (although the agreement was signed in 2017). They now receive/ clear at customs, store, distribute, report. Donors are expected to support the overhead costs where the medicines are delivered free of charge. But UNFPA apparently does not fully support overheads and the NMSF "subsidizes" UNFPA products by storing and delivering at below their cost. **Transport**: The NMSF has a fleet of temperature controlled trucks, cars for supervision, and warehouses. Every month, trucks carry supplies to six states in rotation to cover all states every three months. **Warehouses and distribution**: There are four digitalised (smart) warehouses with cameras and security in Khartoum (HQ). Four states have smart warehouses already and there is a plan in place to expand the network of smart warehouses (every state will have one by the end of 2018) upgrading the existing warehouses. For example, seven states will get warehouse upgrades in 2017 and five more in 2018. **Distribution decisions** are made by states requesting product. At the state level, distribution decisions are taken by the state Reproductive Health unit. Where there is no locality (district) warehouse, the commodities are sent directly to the health facility. Where there is no health facility, the Reproductive Health unit takes commodities		Note of Interview with senior officials from the National Medical Supplies Fund including data managers, supply chain expert, and Warehouse controllers, 16 October 2017, Khartoum.

Question 3: Key Assumptions	Observations	Sources of Evidence
and distributes them to community midwives. There was no available data setting out locality vs. community vs facility distributions. Cooperation between NMSF and Reproductive Health-MoH varies state by state. Good cooperation in Khordofan and Kassala. Poor cooperation in Jazera and Khartoum state. **Cost recovery system:** NMSF uses a cost recovery system for all drugs other than the free drugs. The cost recovery system assigns a cost to each drug that incorporates an element of drug cost and an element of management overhead. The cost of drugs is evened out over the inventory to ensure that no drugs are particularly expensive. Thus the very cheapest are artificially increased in price to cross subsidise the more expensive drugs. States buy their drug requirements from NMSF using their health budgets, operating their own cost recovery system to collect money to pay for the next batch. Drugs are sent out separately from invoices (buy now/ pay later). The NMSF also operates a system of community pharmacies selling drugs direct to the public. **The free drugs programme:** Some drugs continue to be free and these are either from the government list or those donated by donors. List of government provided free drugs includes: • All drugs for children under five • Emergency in first 24 hours • Transfusion • Test kits from blood • Haemodialysis • Renal transplant • Cancer • Fefol and Folic Acid from pregnant women. Some discrepancies though – some of the drugs for under-fives are also suitable for older people so not clear how these are distinguished. Apparently there is an effort underway to make under-five drugs entirely unique. Donated drugs are free as well like FP. Despite the high unmet need, NMSF does not provide any FP through its system other than what UNFPA provides.		

Question 3: Key Assumptions	Observations	Sources of Evidence
Assumption 3.4: UNFPA Supplies works (through PSB and CSB) to **maximize the efficiency and effectiveness** of its procurement and supply of products through **ongoing review and monitoring** including of family planning methods, new designs, quality issues, supplier performance and compliance, global prices, reports of adverse effects or toxicity, and shifting demand trends.		
See the evidence under 4: Access in relation to life-saving commodities.		

8.4 – Improved access to quality RH/FP commodities and services	
Evaluation Question 4:	To what extent has UNFPA Supplies contributed to **improved security of supply, availability and accessibility of RH/FP commodities and services** in programme countries, especially for poor and marginalized women and girls, **in keeping with their needs and choices**, including in humanitarian situations?
Sub-Questions:	To what extent has UNFPA Supplies contributed to the **development of effective strategies and approaches** for making **high-quality RH/FP commodities and services available and accessible** for marginalized women and girls? To what extent has UNFPA Supplies been effective in supporting efforts to **strengthen the capacity of service providers for the delivery of quality RH/FP services and related commodities** and to integrate family planning into other services? Has UNFPA Supplies been effective in **brokering and managing partnerships that maximize the reach of efforts by all partners** to locate and provide a **secure and constant supply of high-quality RH/FP services and commodities** to poor and marginalized women and girls? To what extent has UNFPA Supplies worked effectively with national authorities, and other partners to provide a **timely, secure and constant supply** (and related services) of RH/FP **commodities to women and girls in areas affected by humanitarian crises**, using the MISP kits and guidance as well as other necessary commodities and services where appropriate?

Question 4: Key Assumptions	Observations	Sources of Evidence
Assumption 4.1: UNFPA Supplies works effectively to ensure procured commodities match demand and help **address gaps in national supply chains** (including gaps resulting from crises), to enhance the secure flow and constant availability of affordable RH/FP commodities that are accessible to marginalized women and girls.		
UNFPA Supplies support to national supply chain and services UNFPA Supplies provides **commodities to all 18 states** as well as **capacity building activities around supply chain management** (like training to use the new ordering system). It does focused activity work funded by the Supplies programme in only 6 states. These were selected in 2013 based on criteria agreed with the MoH. However they also have a set of model centres where they try to invest in raising the standards of the services especially through broadening the choice of family planning method (as "*this is the main determinant of quality*"). The model centres		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.

Question 4: Key Assumptions	Observations	Sources of Evidence
are positioned in high density areas. Mainly UNFPA supports model centres with commodities and equipment but sometimes also with infrastructure. So far there are 36 model centres in 18 states with a focus of three in each of the six focus states. In the future, the model centres should expand to provide integrated services, including links to the community.		
UNFPA the main reproductive health partner UNFPA is the main partner for Reproductive Health programme to the MoH and in Sudan. RHCS component is jointly planned and delivered. WHO says that RHCS is well planned although there is still a gap between availability of and demand for services. They used to face problems with procurement of family planning commodities, and with customs clearance. Made vertical in the plan to avoid delays. Other thing is supply chain in central areas down to states – they recruited a company to do this. UNFPA is doing well with family planning. CPR still very low though and related to reproductive health more generally.		Note of interview with WHO Sudan, Reproductive Health Team, 19 October 2017, Khartoum.
Efforts to increase service quality Model Centres have been effective in increasing demand. The MoH requested increased support for model centres. There is good information sharing and partnership between MoH – UNFPA.		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
NMSF free medicines channel NMSF operates a free medicines channel and a cost-recovery channel in 16 out of 18 states. Two states (Khartoum and Jazera) have not joined. Khartoum was concerned that it would have to subsidise other states, it being very large and wealthy. At the time of the 2015 Act of Parliament on NMSF, it was possible for states to opt out. The major vertical funds are operated through the NMSF including GFATM, GAVI, ANC funds and emergency delivery. Now the UNFPA Supplies donated commodities are channelled through NMSF as well as most or all of the humanitarian commodities which are mainly kits.		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Financial accessibility Until the 1980s all meds were free. In the early 1990s a new programme was introduced and the patient had to pay for medicines with a few very narrow exceptions: blood transfusion, haemodialysis, cancer, drugs needed in the 24 hours after an emergency. From 2014, the free component expanded to include children under 5, iron and folic acid for pregnant women, caesarean sections.		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
UNFPA Supplies provides commodities in kind. Neither the State MoH in Darfur North nor the UNFPA team has up to date information about the stock currently available at any of the state warehouses, localities or heath facilities. This information – to the extent that it exists – is in the hands of the NMSF.		Note of field visit to North Darfur State, 21-23 October 2017.

Question 4: Key Assumptions	Observations	Sources of Evidence
Condoms are not easily accessed by people for family planning use		
In 2014 there was an incident with condoms clearance because Ministry of Intelligence and Customs agents made their own decisions to retain the condoms and not allow them to clear. The perception of government officials was negative about condoms as they feared that they would be used by young people (it was a moral question). It took six months to clear them. They also insisted on testing them. **Condoms are not used as a family planning method very much** and as they come close to expiry, UNFPA transfers them to the HIV department which then distributes them for HIV prevention. The Global Fund brings in condoms for **HIV prevention** purposes. UNFPA is not fully clear why condoms are now unacceptable. It will be the subject of qualitative studies in the future. "Most preferred method is pills" although literacy means that compliance is often poor. For example, "women stop taking the pills when husbands are away" etc. [note: no suggestion was made that the counselling services should be improved]. **Condoms** are not easily accessed by people for family planning use.		Note of interview with UNFPA Reproductive Health Team, 17 October 2017, Khartoum.
Condoms and HIV Prevention UNFPA takes the lead on the prevention side of HIV in Sudan. HIV prevention is focused on key populations including MSM, FSW and HIV+ individuals/ couples. **Condoms are distributed by the programme free of charge**. All condoms are procured and dispatched by UNDP on behalf of the Global Fund but they procure them from UNFPA in Copenhagen. There is a committee for condom distribution that oversees quantification. They have experienced condom shortfalls and stock outs. The idea of **integrating reproductive health and HIV was started 5 years ago but is still not fully developed**. UNFPA HIV programme started at the facility level and has now shifted to community level. However, at national level, the integration broke down between reproductive health and HIV teams so have focused on community based integration. Services should include STI diagnosis and management. The condom distribution policy stipulates that condoms are not for everyone. **Condoms cannot be provided for non-HIV services.** However they are available in private pharmacies for purchase by anyone. The policy environment for HIV prevention is not stable: sometimes the work goes well. Sometimes it is impeded by extraneous factors. There is a plan to develop an advocacy strategy to 'reclaim' condoms. The laws should be clear and if no law against condoms, they should allow them to be distributed in all reproductive health services. The stigma against condoms is among service providers. Ownership by the government: challenge or problem for the government is not taken up vigorously. The lack of government budget for HIV reduces sustainability.		Interview with HIV Team, UNFPA, 25 October 2017, Khartoum.

Question 4: Key Assumptions	Observations	Sources of Evidence
Stigma is a major barrier for testing, counselling and among people living with HIV. HIV should be integrated into general services. **More effort needed for demand creation** which is essential to service efficiency. HIV was a standalone directorate and is now a department in the larger directorate of diseases so one of 30 diseases – the Communicable and Non-communicable Disease Directorate (CNCD). STIs and PMTCT on the other hand will be transferred to the Reproductive Health Department.		
Condoms are not easily accessible to people for family planning. People don't ask for condoms and they are not usually supplied for family planning, only for HIV prevention.		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
Condoms are distributed routinely in clinics for HIV positive people but also during campaigns directed at MSM, CSW and HIV+ individuals. Part of a package for the treatment of STIs as well. Three million condoms were distributed last year in the HIV programme and the order for 2018-19 was under-resourced due to financing constraints which meant the needs are not fully covered such as they are. Previously they distributed to all states but now going to release them in a more targeted way. NMSF does the distribution. 2018-2020 will prioritise eight states including Kassala, Red Sea, White Nile, North Khordofan, S Darfur etc. These are higher risk areas on the border of the country and in the conflict areas. Condoms will be focused on key pops. The NMSF delivers to all 18 states, even Khartoum and Jazera. Khartoum and Jazera are separate in other respects however – they don't get NMSF training, infrastructure, capacity building or the supply of cost recovery commodities. They don't want to subsidise other states and have their own revolving drug funds. In Gaderef, Reproductive Health commodities go from the state WH to midwives via State Ministry of Health. There are 38 facilities offering ART/ VCT sites, 500 VCT sites and 500 sites delivering STI control and treatment. None of these – as far as he knows – includes family planning in their services. There is so far no integration of RMNCAH and HIV/AIDS, TB and Malaria. There is a ART treatment centre in each state capital.		Note from interview with the Supplies department, Global Fund for AIDS, TB and Malaria 18 October 2017, Khartoum.
Condoms There is increased interest in promoting condoms as a family planning method. Condoms – not clear what is happening with condoms. They are not promoted as a FP method, men don't like using them, NGOs cannot distribute them but some Reproductive Health unit staff said there is no inhibition or restriction, it is just very low demand. Condoms were the only FP item or UNFPA procured/ donated item that were quality tested in country. "No restriction on condom distribution but low demand especially from men". **Condoms are not on the new FP stock management form**.		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum

Question 4: Key Assumptions	Observations	Sources of Evidence
Availability of condoms Cultural barrier around condoms which they are starting to discuss; planning studies to explore this.		Note of interview with WHO-Sudan Reproductive Health Team, 18 October 2017, Khartoum
Condoms There were condoms from 2013 to 2014; since then: "*We order condoms but they never come. We would distribute them if we had them".*		Note of interview with Reproductive Health Team, State MoH, Kassala, 23 October 2017.
HIV and distribution of condoms Jasmar is a local NGO established in 2007 and partnering with UNFPA since 2012. It operates in ten states. In Kassala, Jasmar is the umbrella organization for four other organisations: FBDO, Sawayaa, SORD, and Al Aldroof. As a group they mainly deal with HIV and aim to reduce transmission of HIV/AIDS and improve quality of life for people affected by HIV. Their working model/ approach is to engage in community mobilisation. **Weak links between HIV and reproductive health** They give out condoms but not family planning. HIV positive women are referred to hospital where there is a PMTCT service. [Note, at the hospital today, they said there was no HIV/AIDS or STI service at the maternity hospital. Jasmar and its associated organisations would do more in the way of family planning if they had protocols and a mandate/ commodities etc. They'd like more support from UNFPA for an ART centre. Jasmar has condoms from UNFPA. They have a UNFPA stamp on the box. The UNFPA HIV team in Khartoum said this is because the Global Fund procures condoms from Copenhagen and UNFPA is the global provider.		Note of interview with Jasmar Organisation, Kassala, 23 October 2017, Kassala State.
Condoms State MoH has **requested condoms** but "*they don't arrive*."		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Limited integration of family planning into other services Counselling process had been a limitation to integration: trained counsellors were necessary to offer HIV testing and getting a trained counsellor to a health centre was a barrier. Now this is being changed and nurses should be able to offer a test and counselling as well. Integration is the best way to promote uptake of services. Integration has been very slow and for example, major hospitals hardly offer FP and STI services don't have FP in ANC/ PNC. PNC doesn't offer FP. Lots to be done on integration.		Note of meeting with Global Fund for AIDS TB and malaria

Question 4: Key Assumptions	Observations	Sources of Evidence
Misoprostol: It was hard to get information about misoprostol; it was locked in the drawer of the consultant and could not be seen. Despite asking, couldn't get information about use or protocols.		Note of field visit to North Darfur State, 21-23 October 2017.
Misoprostol is on the list for hospital use only. However there is a pilot going on to see about allowing community midwives to use miso in association with post-partum haemorrhage (only 24 percent of deliveries are in facilities and haemorrhage is the main cause of maternal death).		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
The assessment of midwife use of **misoprostol** and magnesium was done in two states and four localities. It has been very successful. The policy on misoprostol was approved in 2015. It has not been distributed or advocated enough		Note of interview with Ministry of health Senior Official, 19 October 2017, Khartoum.
Government leadership on misoprostol UNFPA should work on accessibility and sustainability in family planning including Reproductive Health Commodity Security. Partnership is critical but so is government will and commitment. For example, the government wants to change the **Misoprostol** policy so they are changing it. **Social norms change is vital and underpins all**.		Note of interview with the WHO Reproductive Health Team, 19 October 2017, Khartoum.
Misoprostol restrictions on use Misoprostol is kept locked in the desk drawer of the downstairs pharmacy. A doctor can request misoprostol by coming downstairs from the delivery ward to collect it.		Observation note, visit to Omdurman Maternity Hospital, 17 October 2017, Omdurman.
Misoprostol restrictions on use Orders are three monthly and done electronically except for **misoprostol** which is actually ordered only with Pharmacy Department approval. So the NMSF submits a paper form to Pharmacy department which signs/ stamps it. This form has to be sent to Khartoum (NMSF) by DHL. But then the misoprostol – which is held in the pharmacy as other drugs are – is then sent up on the same trucks. This is because **misoprostol is a controlled substance; there are concerns that it will be used for illegal abortion.**		Observation note and interview: Kassala MNSF State Warehouse, 23 October 2017, Kassala.
Misoprostol restrictions on use Misoprostol **is locked** in the medical director's drawer and has expired. There is no Misoprostol in Kassala state currently.		Observation note and interview: Al Saudi Maternity Hospital and Kassala State Warehouse, 23 October 2017, Kassala
Misoprostol – doesn't use much in Kassala state as the training has not been done. EMOC centres are not common and most women who are referred have to come to the Kassala State hospital. Misoprostol in the state **has expired**. Not even available across all the localities.		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Availability of life-saving drugs		Note of Interview with Al Saudi Maternity Hospital senior

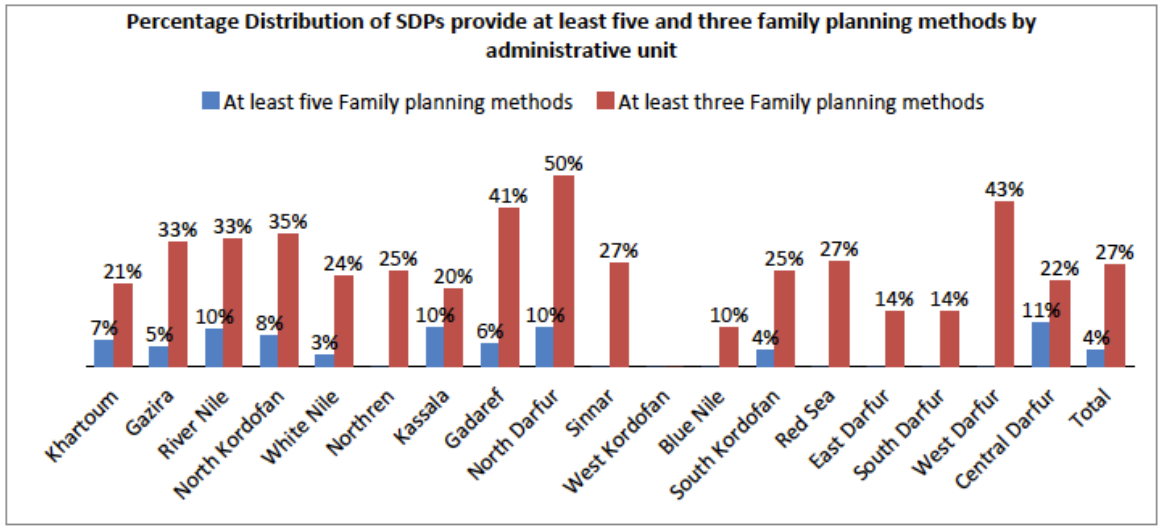
Question 4: Key Assumptions	Observations	Sources of Evidence
There was no misoprostol or rather the misoprostol that was there, had expired and continued to be locked in the medical director's office as per protocol. Misoprostol and Oxytocin are only available in hospitals and are not available in pharmacies (in Kassala).		medical staff, 23 October 2017, Kassala.
New Misoprostol policy Action point from the RHCS Committee meeting "**NMSF** to call Development Partners for meeting to discuss the regulation of misoprostol control measures and its alignments with the new national RH policy" No evidence of follow-up.		Meeting minutes, RHCS Committee 17 August 2016, Khartoum.
Provision of life-saving drugs for distribution at community level Piloting of the community distribution of misoprostol was proved to be successful in saving women's lives who were otherwise unable to get proper treatment in a health facility. Given the fact that midwives in Sudan are currently unable to provide basic emergency obstetric cases, indicates the need for provision of misoprostol that can easily be administered to control Post-partum Haemorrhage.		Note of interview with WHO, 17 October 2017, Khartoum
Orders for Oxytocin UNFPA reports it will order 1,250,000 vials of Oxytocin in 2017 15-month procurement cycle, 30,000 tablets of Misoprostol and no Magnesium Sulphate due to stocks in hand.		Meeting minutes, RHCS Committee 17 August 2016, Khartoum.
Oxytocin policy – 20 IUs in high risk cases and ergometrine should be intra-muscular. There was a workshop on 24 September for 3 days for all the maternity hospitals and health centres. Health centres have been asked for condoms but there are none in stock. Just to Omdurman hospital they send **6000 ampoules of oxytocin, 6000 doses of misoprostol, 3000 magnesium sulphate each month**. Omdurman is the largest maternity hospital and does 130 deliveries per day (about 4000 per month). Omdurman hospital has a guideline for maternity services. It includes ergometrine routinely and Oxytocin only in high risk cases following delivery. The KH state drug management colleagues say that physicians use their own policies regarding oxytocin and misoprostol. **There is no national guideline for the use of life-saving drugs.** "Since I am here, the only workshop was help 1 ½ weeks ago and I have been here 1 ½ years." Six or seven of the twenty two hospitals apply for maternal drugs more than the rest.		Note of interview with Senior staff from the Khartoum State Health Free Drug Programme, 19 October 2017, Khartoum State.

Question 4: Key Assumptions	Observations	Sources of Evidence
Oxytocin policy The average use of oxytocin according to the hospital is two ampoules per client (per delivery). **No standard guideline or protocol** was seen.		Note of field visit to North Darfur State, 21-23 October 2017.
Limitations on use of oxytocin outside large hospitals Challenge in facilities is the cold chain for oxytocin. There is no separate cold chain and **oxytocin is not stored properly**. Increase basic delivery services and arrange conditions to be able to use oxytocin (ex: need solar lighting and fridges).		Note of interview with Ministry of Health Senior Official, 19 October 2017, Khartoum.
Oxytocin policy Maternity unit uses 3000 ampoules of oxytocin per week apparently. 85 vaginal deliveries; 20-30 elective Caesareans, 15 emergency Caesareans per day approximately. (about 130 deliveries per 24 hours). There are about 44 registered midwives on duty every 24 hours. The maternity staff said they accelerate labour using 10 units of oxytocin in a bolus and then 20-30 units after delivery as standard. The labour ward pharmacist said the nurse/ doctor collects oxytocin for each woman. Some midwives said that it was **standard policy to give every single pregnant woman 30 units of oxytocin after delivery whether they are at risk of haemorrhage or not**. **No evidence of a standard guideline or protocol was found**.		Observation note, visit to Omdurman Maternity Hospital, 17 October 2017, Omdurman.
Oxytocin guideline/ policy WHO was not aware of the oxytocin guideline. The team called an obstetrician working in a district hospital during the interview. That obstetrician said they gave Oxytocin by IV once the baby's head and shoulders had been delivered. 20 units in normal saline and then an additional 10 direct IV if needed. Facility based midwives would give it IM since they would not have IV facilities. Also in an emergency it can be IM. **Sudan does not have a protocol on using the life-saving drugs that UNFPA provides**.		Note of interview with the WHO Reproductive Health Team, 19 October 2017, Khartoum.
Oxytocin policy – Kassala (Al Saudi Maternity Hospital) In a normal delivery, women get ergometrine and a vial of Oxytocin, sometimes two vials. This is for prevention of haemorrhage. In this case, she gets the Oxytocin for free and has to buy the giving set which is 15 SDG. For actual haemorrhage, the woman gets misoprostol to stop bleeding in addition to Ergo and Oxy. After Caesareans, women get ergo and Oxy and misoprostol (four tablets). However, in the end, they have to do what the consultant says.		Observation note and interviews, Al Saudi Maternity Hospital, Kassala, 23 October 2017, Kassala.
Oxytocin Storage in pharmacy warehouse in fridge; on the labour ward in the freezer. The hospital receives 2000 vials every three months from NMSF. Pharmacist says they use 3000 per month across all the 2-3 hospitals in Kassala state that		Note of Interview with medical director and observation at Al Saudi Maternity Hospital and

Question 4: Key Assumptions	Observations	Sources of Evidence
use oxytocin. Apparently there is more oxytocin delivered in the free drugs or the emergency drugs up to 9000 every three months. So implication is that **oxytocin from UNFPA covers about 20 – 30 percent of need at the hospital**.		hospital warehouse, 23 October 2017, Kassala.
Assumption 4.2: UNFPA Supplies and COs work effectively (with national authorities, and other partners) to **develop new approaches** to **address and resolve barriers preventing poor and marginalized women and girls** (including those in humanitarian crises) from accessing RH/FP commodities and services across the entire market (public, private, NGOs, etc.).		
Humanitarian needs /access to services The only identified reference to reproductive health (and family planning) in the Humanitarian Needs Assessment 2017 is: *Of the total number of people in need, about 164 000 are pregnant and lactating women in need of maternal and reproductive health services including emergency obstetric care.* (p22)		Sudan Humanitarian Needs Overview 2017, published December 2016, UN OCHA
Meeting needs of vulnerable women and girls The Sudan Family Planning Association (SFPA) has **2 model health sites in North Darfur state** and both are in refugee camps (and both are supported with UNFPA commodities). The site in Abu Shouk camp sees on average 100 people per day. It is the only health facility serving the camp and provided a fully comprehensive PHC package to more than 274,000 IDPs. Before 2016, there were more than 4 INGOs providing health care (including reproductive health) services in the camp but both central government policy changes and decreased funding streams have led to the reduction of INGOs across the IDP camps. There are 40 community midwives, who distribute contraceptive and make referral to the site.		Note of field visit to North Darfur State, 21-23 October 2017.
INGO delivered services Médecins sans Frontières has worked in North Darfur state since 2007 and currently provides services in three camps. They get UNFPA clean delivery kits, STI kits and Implants all of which they collect from the MoH. They procure their other needed commodities through their own headquarters. They always have a shortage of clean delivery kits.		
UNFPA supported kits UNFPA also provides kits (especially rape kits) to Darfur areas (five states).		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.

Question 4: Key Assumptions	Observations	Sources of Evidence
UNFPA capacity building for better access to reproductive health services **Before 2016 midwives were not allowed to deliver family planning services to communities in North Darfur state** and it was only physicians and health assistants (highly trained registered nurses). Recently the policy has changed and midwives are able to provide some services (pills); The State-MoH reproductive health team said that they considered 10 percent of the trained midwives to now be providing family planning services but they planned to ensure all midwives could in the future.		Note of field visit to North Darfur State, 21-23 October 2017.
Model Centres UNFPA aims to help improve the supply system alongside awareness and information. They have **four model centres in Kassala** so far and plan to develop more. UNFPA also trains doctors in long acting methods and the insertion of implants. Midwives in health facilities (the nurse/ midwife that is just below the health visitor/ sister) are able to do injections but not the community midwife. They are starting in Q4 to orient community midwives around injections but they need more training.		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Pharmacy distributing contraceptives The main NMSF pharmacy in Khartoum has started to distribute family planning commodities. The pharmacy is busy and operates an electronic numbering system. On the day of visit, it was staffed by six dispensing staff and a network of pharmacists behind them filling prescriptions. The drugs were systematically arranged and organised on the shelves all around the dispensing counters. It was a modern arrangement that could have been in almost any country. The donated family planning commodities available in the pharmacy were injectables, combined and mini pills. No condoms were available. **The commodities were not on the shelves but rather in a cardboard box, all jumbled up**. There was no protection for the syringes used to inject Depo Provera. The box was kept on the floor of a storage/ cleaning cupboard. There was no inventory. Other family planning commodities (implants and IUD) have to be delivered by doctors at a health facility. There was a record book that specified the information about the patient but no stock book.		Observation note, NMSF Pharmacy, 16 October 2017, Khartoum.
What contraceptives are most used: Implants are gaining more acceptance in communities; compared to other methods they are less accessible, however, because only physicians and university certified nurses may insert them and they are not working in all health facilities.		Note of field visit to North Darfur State, 21-23 October 2017.
Support to expanding access to implants More support for training staff in Implants insertion was requested by the MoH.		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
Method mix availability The IUD is available only at Elfashir Maternity Hospital; the consumption was one unit in the last 3 months.		Note of field visit to North Darfur State, 21-23 October 2017.

Question 4: Key Assumptions	Observations	Sources of Evidence
UNFPA donated supplies have been provided to about 178 health facilities (18 hospitals and 158 health centres) which are 64 percent of the total health facilities.		
Method mix availability **"**Most women use pills"		Midwife at Sudan Family Planning Association, 18 October 2017.
Method mix **Figure 5: Use of contraception, MICS, 2014** **Modern methods 11.7** IUD 0.4 Injectables 1.4 Implants 0.3 Pill 9.0 Male condom 0.0 Female condom 0.0 Diaphragm/Foam/Jelly 0.0 LAM 0.4 **Traditional methods 0.5** Periodic abstinence 0.2 Withdrawal 0.0 Other 0.3 **Any method 12.1** **No method 87.8** Note: The total does not add to 100% as 0.1% of responses were either "Don't know" or missing.		Multiple Indicator Cluster Survey, Ministry of Health and UNICEF, 2014, Sudan.
Availability of family planning across 18 states:		Sudan Facility Based Assessment for Maternal Health Commodities and Services, National Reproductive Health Programme in collaboration with UNFPA, Maternal and Child Health Directorate, MoH, December 2015

Question 4: Key Assumptions	Observations	Sources of Evidence
Graph (10); Percentage Distribution of SDPs provide at least five and three family planning methods by administrative unit  **Table (11); Percentage Distribution of SDPs provide at least five and three family planning methods by urban/ rural residence** | | At least five Family planning methods | At least three Family planning methods | |---|---|---| | Urban | 10.9% | 36.5% | | Rural | 1.0% | 21.8% | | **Total** | **4.2%** | **26.5%** |	
Human resources for health **Community midwives are not capacitated (authorised) to provide more than pills and condoms**. Community midwives have basic training (18 months) but are still considered “traditional” health workers. The		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.

<table>
<tr><th>Question 4: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="2">professionalization of community midwives is starting and UNFPA is leading with funding from the MNCH Trust Fund. UNFPA is primarily focused on training and improving. Community midwives can only provide condoms and pills.</td><td></td></tr>
<tr><td colspan="2">Human resources for health
Not all health workers can offer all commodities that UNFPA provides to Sudan. There is a hierarchy of capacity:

Capacity to deliver different methods of family planning.
<table>
<tr><th>Cadre</th><th>Condom</th><th>Pills</th><th>Injection</th><th>Implant</th><th>IUD</th><th>Other (Misoprostol)</th></tr>
<tr><td>Community midwife</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Community health worker/ assistant</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Basic nurse/ Primary nurse</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Health Visitor</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Medical assistant</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Sister (RN)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Doctor (trained)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Pharmacist (those trained)</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td><td>Compiled from interviews with Ministry of Health, Sudan Family Planning Association, UNFPA Reproductive Health Team and WHO Reproductive Health Team, 15-18 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">Task shifting
Registered nurses (sisters) are able to do injections as well as hand out pills and condoms. A pilot was done in Blue Nile state and one other state during which registered nurses (sisters) were taught/ authorised to insert implants. Results still being analysed but preliminary findings suggest this is a very good development. This would allow registered nurses (sisters) to do more than pills and injections.</td><td>Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum</td></tr>
<tr><td colspan="2">Task shifting
The MoH wants to focus on training registered nurses (sisters) and GPs rather than Obstetric-Gynaecologist consultants. This is a kind of task-shifting because of the tendency for consultants to hold onto knowledge and responsibilities rather than training others. MoH is also working on building training programmes so that the skilled midwife (the nurse/midwife not the community midwife) can do implants.</td><td>Note of interview with Ministry of Health Senior Official, 19 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">Task shifting
Task shifting pilots are underway: for example in North Kordofan state and Gadarfi State there is a pilot to use misoprostol at the level of the community midwife.
Community midwife can only do pills and condoms currently.
Only Doctor, Sister and Medical Assistants can be trained to do implants.</td><td>Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum</td></tr>
</table>

Question 4: Key Assumptions	Observations	Sources of Evidence
Injectables have only been available from UNFPA since 2015 – it is not clear why. Reproductive Health unit says they were requesting Depo Provera every year but only in 2015 did they start receiving it. UNFPA funded a major training event bringing Reproductive Health unit staff and MNSF state coordinators to Khartoum for Training of Trainers (TOT) training in the commodity management system and capacity building.		
Task shifting The **misoprostol pilot among midwives** is an important development. In terms of service coverage – there is Government commitment is to provide services through the midwives (community and fixed) in a task-shifting venture.		Note of interview with WHO-Sudan Reproductive Health team, 19 October 2017, Khartoum.
On community midwives: Not all are at the same level. So far there is no policy on community midwives. There are 22000 of them growing to 25000 this year. The President has committed to a midwife for every village. 60 percent of the 22000 midwives are already "in the system". In some states this is 100 percent of their midwives and in others, they are behind. In general the **policy is to draw community midwives into the formal health system so they are paid and supervised** somehow. Midwives need supportive supervision and clean delivery kits – this is a high priority and something she asked UNFPA to prioritise if possible.		Note of interview with Ministry of Health Senior Official, 19 October 2017, Khartoum.
MNDSR **Only 56 percent of villages have a community midwife** (a trained for 18-months type of community midwife) but there is a problem with information and getting knowledge to people. There are 800 midwives in the system but 1000 trained already. They also focus heavily on FGM. There are investments periodically in reviving MNDSR and will do a campaign again soon to remind and re-activate communities to identify and report maternal deaths. Providing cell phones and credit to help them. Will also try to support the identification of a community focal point for maternal deaths. (So a combined programme of community awareness, MNDSR and a community focal point but while this may support the first delay, second and third delays will persist without task-shifting, facilities etc.). Raising awareness is done through campaigns through MoH and through media including community radio and other mass media systems.		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Competence to manage the seven signal functions of EmONC The main problem is retention of staff. Especially doctors who are the only ones competent to do three of the seven signal functions of basic EmONC: **Sisters can do:** - Newborn resuscitation - Parenteral oxytocin /misoprostol		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.

Question 4: Key Assumptions	Observations	Sources of Evidence
- Parenteral Antibiotics - Parenteral Anti-convulsants ***but only doctors can:*** - Manage retained placenta (Manual Vacuum Aspiration (MVA)) - Assisted vaginal delivery (Vacuum aspiration/ forceps) - Manage retained products (MVA) Doctors are vital therefore to the current structure of maternal health and the drugs UNFPA provides to the country can only be used by the most senior healthcare workers. They get incentives to stay in rural areas but they don't have the equipment they need to work fully at state level let alone at locality level. Laboratory technicians and pharmacists are only available in the hospital rather than at locality. Few tests at locality level. **Task-shifting as an idea is a crucial process to getting more health workers able to deliver basic services** including the Seven signal functions of EmONC. Federal Ministry of Health is convinced about task-shifting but not enough women can be found who are literate and can be trained. Need to challenge traditions. Training Centres need upgrading as well – better tutors, equipment, supplies. Starting to upgrade the qualification and training of the facility based Nurse/Midwife Engaging Medical Assistants in delivery family planning Sisters need a baccalaureate degree. Trouble finding women who are literate enough to train as nurse/ midwives is an issue UNFPA procures clean delivery kits for individual mother and midwife.		
UNFPA support to better maternity care/ life-saving care at birth UNFPA supported the development of a national policy aimed at managing the major causes of maternal mortality. The manual was prepared by national obstetrics and gynaecology consultants. It identifies what should be done to prevent, identify and treat three causes of maternal mortality, including what medications to use and when to refer. A copy of the manual was in the UNFPA office in Khartoum but no other health facility referred to it.		*Management Protocols of Main Causes of Maternal Death*, 2016 Ministry of Health, UNFPA, and WHO.
Training for integrated delivery		Note of interview with Safe Motherhood Adviser, UNFPA

<table>
<tr><th>Question 4: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="2">Training of health care providers on SRH service provision is done in an integrated manner. The training curriculum includes FP, antenatal care, postnatal care and HIV/AIDS including PMTCT. Training targets care providers of all categories excluding medical doctors who have a separate training on FP long acting methods; Supervision of health facilities providing SRH services, that is partially supported by UNFPA Supplies program, is done in an integrated manner for all mother and child health services.</td><td>Sudan, 27 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">A complex environment for Human Resources for Health
The following table illustrates the range of organisations involved in HRH management (p.49-51)
<table>
<tr><th>Stakeholder</th><th>Current role in HRH</th></tr>
<tr><td>Federal Ministry of Health (FMoH)</td><td>-HRH policy and planning
-HRH mass training and funding
-Training paramedics
-HRH management
-HRH data and information</td></tr>
<tr><td>State Ministries of Health (SMoHs)</td><td>-HRH policy and planning at the State level and within the framework of National policy
-HRH training (availability varies from State to State)
-(training paramedics)
-HRH management down to the locality of staff, including deployment of staff to locality health facilities
- HRH data and information collection and storage</td></tr>
<tr><td>Ministry of Higher Education (MoHE)</td><td>-policies on production of HRH
-licensing, monitoring and supervision of medical and health training institutions
-teaching staff development and training
-data and information on admissions, enrolment, graduates and staff</td></tr>
<tr><td>Ministry of Labour (MoL)
Chamber of Civil Service (CCS)
National Council For Training (NCT)</td><td>-employment and condition of service for health staff
-salary structure and promotion of health workers
-approval and funding of health workforce training</td></tr>
<tr><td>Ministry of Finance (MoF)</td><td>-provision of salaries for public sector staff
-regulating the range of incentives for health staff
-funding the allowances and incentive packages for staff placement</td></tr>
<tr><td>Sudan Medical Council (SMC)</td><td>-licensing and registration of physicians, dentists and pharmacists
-accreditation of medical, dental and pharmacy schools</td></tr>
</table></td><td>National Human Resources for Health, Strategic Plan for Sudan, 2012-2016, Federal Ministry of Health Directorate General of Human Resources for Health Development, Government of Sudan, 2012.</td></tr>
</table>

Question 4: Key Assumptions	Observations	Sources of Evidence
	-ensuring safety of practice by doctors and dealing with related public complaints	
Council for Allied Health Professions (CAHP)	-licensing and registration of nurses, technicians and paramedical staff	
Sudan Medical Specialization Board (SMSB)	-postgraduate training for doctors, dentists and pharmacists -CPD for doctors	
Army Medical Corps(AMC)	-employment of HRH on military terms -planning, distribution, management and training of affiliated staff	
Police Health Services	-employment of HRH on Police forces terms -planning, distribution, management and training of affiliated staff -provision of basic medical and health care education	
Health Insurance Fund	- top-ups for health staff providing insurance services - employment and management of some staff categories	
Sudan Doctors Union (SDU)	- Professional development for doctors (conferences, etc.) - support for doctors in condition of work and some general services	
Sudan Health and Social Professions Trade Union (SHSPTU)	- condition of services and trade union activities for all health - workers (with a focus on nursing and paramedics)	
Sudanese Technicians Association (STA)	- professional development of technical staff - condition of work and scope of practice for technicians	
Private sector	- production of HRH (basic and postgraduate training) - employment and management of staff - toppings for public sector staff working on part-time basis	
International agencies and donors	- technical support in HRH policy and management - training and CPD chances - toppings for public sector staff	
Assumption 4.3: UNFPA Supplies works effectively with national authorities, and other partners, to enhance availability and ease of access to RH/FP services and commodities using a **total market approach** (engaging a full range of public, NGOs, and private sector providers including social insurers and social marketing outlets and kiosks/dispensers for condoms, etc.).		
See under Assumption 1.4		
Assumption 4.4: UNFPA Supplies procures, packages and delivers **emergency RH/FP kits** and individual products with the **appropriate range, quantity and quality reaching populations in a timely way at the start of and during humanitarian crises**, to enable those affected to meet their RH/FP requirements.		

Question 4: Key Assumptions	Observations	Sources of Evidence
Humanitarian response UNFPA has responded to the emergency in Darfur by opening an office and providing: • Kits, contraceptives and lifesaving drugs • Medical equipment to support maternity, deliveries, and blood bank • Demand creation through provision of training to midwives and community health workers in the camps • Support referral from camps to hospitals and provided ambulances However, this support is financed from a range of sources and over the period of 2013 -2016 almost completely ceased to be funded from UNFPA Supplies.		Note of field visit to North Darfur State, 21-23 October 2017.
Humanitarian response UNFPA works through MoH and other partners like MSF and Relief International. The UNFPA state office at Al Fashir always keeps a quantity of reproductive health and lifesaving commodities as a buffer stock (for security) to enable them to respond immediately to any emergency. This stock is stored in the UNFPA store and not NMSF or MoH store. The lead **time to get emergency kits from UNFPA HQ is quite long** and usually takes between five and six months. **The buffer stock is not adequate to cover gaps when there is a large emergency.**		Note of field visit to North Darfur State, 21-23 October 2017.
Humanitarian response **MSF always face a shortage of clean delivery kits** and the amount getting from UNFPA is not enough; they have more than 1200 deliveries in 2016, and the amount they got from UNFPA is sufficient to less than 25 percent of the need.		Note of field visit to North Darfur State, 21-23 October 2017.
Humanitarian response Al Fashir maternity hospital is supported by UNFPA. It received 125, 130, and 135 deliveries in July, August and September. It offers all types of contraceptives except condoms.		Note of field visit to North Darfur State, 21-23 October 2017.
Support to humanitarian response UNFPA facilitated access by INGOs to provide essential commodities at NMSF (like oxytocin, misoprostol, magnesium sulphate etc.).		Note of interview with UNFPA Humanitarian Team, 15 October 2017, Khartoum.
UNFPA has so far **trained more than 92 midwives in 2017 from the IDP communities** to provide counselling, awareness raising and distribution of pills among the women and girls in the camps.		Note of field visit to North Darfur State, 21-23 October 2017.
Humanitarian response The UNFPA humanitarian programme distributes commodities and undertakes activities in the emergency/ humanitarian affected areas which are the five Darfur states (east, west, south, central, north), Blue Nile, and White Nile. The programme distributes kits 2 to 12 especially kit three (post-rape kit). The humanitarian response plan is		Note from interview with UNFPA Humanitarian Team, 15 October 2017, Khartoum

Question 4: Key Assumptions	Observations	Sources of Evidence
developed based on need. The response is determined by resource availability and access. There's been a recent mapping of high dependency / most affected populations which shows that needs are not decreasing but increasing.		
UNFPA contribution to humanitarian response When asked what UNFPA's contribution has been, both the WHO and the SFPA said (among other things) that **UNFPA's promotion of the Minimum initial service package (MISP)** has been important to guide the humanitarian response.		Interviews with WHO Sudan and with SFPA, 18 and 17 October 2017 respectively, Khartoum.
Humanitarian response In North Darfur (2.5 million refugees and IDPs) they use the following UNFPA kits: 2, 3,4,5,6,7,8,10, 11a. 11b and 12. The decision to select the type of kit and quantities is based mainly on the situation and need. However, UNFPA funds kits from humanitarian funding channels and only sometimes from UNFPA Supplies. However, maternal drugs (lifesaving drugs) may be funded from UNFPA Supplies.		Note of field visit to North Darfur State, 21-23 October 2017.
Humanitarian response Since 2014, funds for humanitarian support has declined – 2015 form example, only 30 percent of need met for reproductive health. For funding, UNFPA mostly depends on the CERF and the common humanitarian fund (CHF) to procure kits now.		Note from interview with UNFPA Humanitarian Team, 15 October 2017, Khartoum
Demand exceeds supply Demand exceeds supply on all fronts in relation to the humanitarian team efforts. They send products/kits to the Al Fashir maternity hospital because it receives a lot of IDPs especially kits 3, 8-12 and 6a/ 6b. Darfur has a high need for fistula repair kits. They send equipment as well. Mainly funded from non-UNFPA Supplies sources but they also work through the NMSF. Ministry of Health stores were insufficient and poorly capacitated so it is better now with NMSF.		Note of interview with UNFPA Humanitarian Team, 15 October 2017, Khartoum.
Availability of life-saving drugs Current stock of kits in Al Fashir: Kit 2A – 3.5 kits in hand; Kit 2B – 2 kits in hand; Kit 3 – 1 kit in hand; Kit 6A – 2 kits in hand; Kit 5 – 3 kits in hand. Each kit meets the needs of several thousands of people for one month.		Note of field visit to North Darfur State, 21-23 October 2017.
Availability of kits Kits: RH, post rape, fistula, STIs. Only kits 0 and 1 (a and b) not procured. Low demand for condoms and "*NGOs not allowed to hand them out*".		Note of interview with UNFPA Humanitarian Team 15 October 2017, Khartoum.
UNFPA support to improving access to commodities in humanitarian areas MSF signed an MOU in 2017 with NMSF and UNFPA to provide reproductive health supplies right to Khartoum and then MSF would collect and distribute to lower level according to their need. They also work in South Khordofan and White Nile states. This MOU thus allows them to build stock predictability into their supply chain. They now want to negotiate the quantity they take from NMSF – all the quantities should be agreed up front as a predictable amount –		Note of field visit to North Darfur State, 21-23 October 2017

as at the moment, they are not guaranteed a specific amount. The big challenge is that they are the only organization providing services in three camps as all other organizations have left. They observed that when any organization leaves and hands over the health site to public authorities, functionality declines and sometimes the facility is closed down.	

8.5 – Strengthened systems and capacity for Supply Chain Management	
Evaluation Question 5:	To what extent has UNFPA Supplies contributed to **improving systems and strengthening capacity for supply chain management** for reproductive health and family planning commodities in programme countries?
Sub-Questions:	To what extent has UNFPA Supplies enhanced the ability of programme countries **to move commodities** from their point of arrival through various supply channels to the **last mile and service delivery points?** To what extent has UNFPA Supplies strengthened supply chains for RH/FP commodities in areas affected by humanitarian crises? To what extent has UNFPA Supplies contributed to strengthening the **capacity of supply chain managers and service providers** to forecast, order, receive, store, distribute and report on commodities? Has programme support addressed the capability, opportunity and motivation of supply chain managers and service providers? Has UNFPA Supplies been effective in **improving systems (both computerized and manual) and procedures** for supply chain management (including LMIS) and systems for inventory management, distribution, tracking and tracing of products), by working with **public, NGO and private sector actors**? Have countries reported positive results in tracking and managing these products? To what extent have UNFPA Supplies interventions incorporated a focus on **sustainability of supply** (to mitigate the potential risk of supply disruptions) through increased national ownership and support?

Question 5: Key Assumptions	**Observations**	**Sources of Evidence**
Assumption 5.1: UNFPA Supplies engages with national supply chain managers and development partners in countries to **discern key areas of supply chain management requiring support** (while seeking consensus among stakeholders regarding gaps and requirements to address them), and works to **supply targeted training, technology, and innovations to address the identified gaps**.		
	The Supply Chain was a major gap in the past. At health facilities, supplies were not there (as shown in annual health facility surveys). The 2014 survey showed, for example, that supplies were very low. Most health facilities had just one or two family planning methods. Very few had more than two. As a result the approach taken was to strengthen the link to key partners(mainly government) and advocate for more action on FP.	Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
	Audit identifies a high priority problem with commodity management in UNFPA	Audit of the UNFPA CO in Sudan, Final Report (No. SDN-103), 4 February 2015, Office

Question 5: Key Assumptions	Observations	Sources of Evidence
"The audit identified a significant volume of commodities (primarily oral contraceptives), procured at a cost of approximately USD 3.2 million, stored at the MoH central warehouse in Khartoum, that were awaiting distribution at the time of the field audit mission…" *"The inventory of oral contraceptives held at 31 October 2014 represented approximately 20 months of supply. It included contraceptives supplied in 2012 and 2013 at a cost USD 1.6 million. In the case of contraceptive 1, a product with a three year shelf-life, inventory on-hand at 31 October 2014 was supplied in 2012 and 2013 and amounted to USD 1.3 million. Of this amount, USD 0.4 million corresponded to inventory due to expire in May and July 2015 − which significantly reduces the time window available for distribution and use. Despite the large amount of undistributed inventory, the Office procured in March 2014 additional quantities of the same product, at a cost of approximately USD 0.9 million (the shipment arrived in Sudan in September 2014). In addition, the audit noted that approximately 50 percent of the intra-uterine devices held in stock was procured in 2008, and is due to expire in January 2015." (p.26)*		of Audit and Investigation Services, UNFPA.
Two main results from the UNFPA supplies programme in the last few years: • **Strengthening the supply chain** Managed to integrate the UNFPA procured (donated in kind) supplies into the national supply chain. • **Advocacy and capacity building of care providers** Supported financially to train care providers to deliver FP including midwives doctors, sisters and community level health workers. The supply chain integration has been the most important development for FP and UNFPA in the last few years. This has promoted the sustainability of the sector and quantification, SCM, distribution, storage etc. has all improved.		Note of interview with UNFPA Reproductive Health Team, 15 October 2017, Khartoum.
The drug supply system in Kassala works like this: The State MoH asks for commodities. These are delivered from NMSF to the state warehouse operated by NMSF. They are then sent by NMSF to the 11 localities and deposited in State MoH owned warehouses/ pharmacies (one locality doesn't have a warehouse apparently). From the Locality warehouse, MoH (at state level) collects the drugs and delivers them to the health facilities.		Note of interview with Kassala State UNFPA team, 22 October 2017, Kassala.
Shift to NMSF **Since July 2016, Reproductive Health commodities come from the NMSF. Before this, there was no knowledge or control over the programme**. No one knew where the drugs were or that they were free. Drugs were going onto the black market. There was poor quality storage and stock management system.		Note of interview with Senior staff from the Khartoum State Health Free Drug Programme, 19 October 2017, Khartoum State.

Question 5: Key Assumptions	Observations	Sources of Evidence
Twenty-two hospitals in Khartoum state have maternity wards. 215 health facilities have reproductive health care (family planning) services – or receive family planning commodities. There are 615 health facilities in the state. When there are no stocks, they request additional medication from NMSF and the stock comes. Usually no problem and they get what they ask for except at the moment there are no IUDs in the Khartoum State warehouse [NMSF subsequently confirmed that there was no stock at the central NMSF warehouse either]. The state sends a report to the central warehouse based on reports from the health facilities to the state. There are a number of inspection reports from visits.		
Shift to NMSF **Before 2013 – commodity availability was very poor**: insufficient stores, lack of knowledge about what was where or getting stock to different health facilities. UNFPA rebuilt the RH commodity store and this helped a lot. Then in 2016 the agreement was signed with NMSF and that has also been a big improvement in stock management and commodity availability. Commodities have been important to maternal health improvement but also SBAs have been important. The NMSF delivers commodities directly to health facilities. In the past, the State reproductive health unit or locality authorities had to do it and they had difficulties getting vehicles in order to reach health facilities.		Note of interview with Reproductive Health Team, State MoH, Kassala, 23 October 2017.
NMSF Description of itself: An autonomous public organisation with more than 400 employees. The turnover in 2016 was 215 million USD. **NMSF is responsible for procurement, quality assurance, storage and distribution of commodities (both cost recovery and free commodities)**. They integrate donated commodities into their systems for an additional fee. Apparently UNFPA "does not pay the full fee for their commodities". Central medical stores in Sudan was established in 1935. The new system was established by a 2015 Act of Parliament. NMSF was **established following an analysis of the supply chain which identified numerous blockages and risks to supply security** including (1) supply risks related to sanctions, forex challenges, registration barriers for individual commodities; (2) individual/ parallel arrangements managed by donors, different government agencies and departments etc. which led to inefficiencies, duplication, expired drugs and stock outs ; (3) poor dispensing and prescribing practices compounded by patient education failures and harmful practices so that commodities finally available at the health centre were not being used to maximum effect. The total capital investment so far has been over 33 million USD (into warehouses, trucks, commodities as well as an electronic data management system that allows weekly stock tracking and reporting etc.).		National Medical Supplies Fund, introductory material collected 16 October 2017, Khartoum.

Question 5: Key Assumptions	Observations	Sources of Evidence
Diagram showing the hierarchy at NMSF NMSF is overseen by a committee made up of eleven servicing employees (the Administration Board). NMSF staff include pharmacists, biomedical engineers, admin, accountants, logistics personnel, store keepers and legal advisers.		National Medical Supplies Fund, introductory material collected 16 October 2017, Khartoum.
Assumption 5.2: UNFPA Supplies (through COs) **collaborates effectively with country officials**, to enable **introduction and roll-out** (with requisite training) **of required new manual and automated supply chain management systems** and procedures including LMIS, inventory management, distribution to the last mile, track-and-trace mechanisms, etc.		
The National Medical Supplies Fund (NMSF) Commodities are delivered in kind and are tested before shipping (other than condoms). The CO and national authorities do a physical inspection together. **The commodity distribution plan is developed by the Reproductive Health Unit at MoH and the movement from States to localities and health facilities is through a pull system.** Where there is no locality (district) warehouse, the midwife supervisor decides how much should go to each community midwife. Commodities are thus transferred back to the RH authorities (at state level) to allocate to facilities and communities. 90 percent of commodities according to UNFPA go from States to Health Facilities directly. NMSF has to deliver to facilities or institutions only. Therefore where the commodities cannot go to a warehouse or a health facility, they are transferred back to the MoH system to distribute (for example, to individual community midwives). In some states, community midwives are having difficulty getting access to commodities (e.g. Blue Nile) as the system is not working well.		
Views about the national supply chain system Faster since the NMSF took over from the UNFPA. Works better at national level down to State level but it appears that stock management fails from the State level down to locality. In fact stock management reports do not routinely go to the Reproductive Health Unit. Availability of commodities is good. Prior to shift to NMSF, there were delays in customs, SCM, distribution etc. Even NMSF doesn't know the distinction between distribution and consumption of commodity. Commodity consumption reports do not go to MoH.		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
Storage There are four NMSF warehouses in Kassala and a new bigger more modern one coming soon. They distribute drugs monthly to health facilities 100 percent in Kassala. There is no distribution through MoH at state level in Kassala. In the		Note of interview and observation: NMSF Kassala State headquarters and

<table>
<tr><th>Question 5: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="2">past, the drugs were distributed to localities and then they had to find a way to deliver to facilities. It was challenging and did not go well.</td><td>warehouse, 23 October 2017, Kassala</td></tr>
<tr><td colspan="2">Evidence of stock outs/no stock outs :
There were almost no stock outs of most family planning commodities in any warehouse, hospital or health facility visited.</td><td>Warehouse, hospital and health facility visited by the evaluation team.</td></tr>
<tr><td colspan="2">A spot check of the North Darfur state level NMSF warehouse showed the following stock in hand:
<table>
<tr><th>Item</th><th>Unit</th><th>Stock on hand</th><th>Monthly consumption of Sept 2017</th><th>Monthly consumption of August 2017</th></tr>
<tr><td>Microgen</td><td>Strip</td><td>60</td><td>200</td><td>172</td></tr>
<tr><td>Exceltone</td><td>Box of 3 strips</td><td>75</td><td>52</td><td>67</td></tr>
<tr><td>Implanon</td><td>Implant</td><td>36</td><td>3</td><td>1</td></tr>
<tr><td>Condoms</td><td>Piece</td><td>4,320</td><td>32</td><td>124</td></tr>
<tr><td>Injection-Petogen</td><td>Ampule</td><td>75</td><td>22</td><td>17</td></tr>
<tr><td>IUD</td><td>Piece</td><td>52</td><td>0</td><td>0</td></tr>
</table></td><td>Note of field visit to North Darfur State, 21-23 October 2017</td></tr>
<tr><td colspan="2">Stock availability in Al Fashir Maternity Hospital:
<table>
<tr><th>Item</th><th>Unit</th><th>Stock on hand</th><th>Monthly consumption of Sept 2017</th></tr>
<tr><td>Oxytocin</td><td>Injectable</td><td>14</td><td>900</td></tr>
<tr><td>Mg sulphate</td><td>Injectable</td><td>5</td><td>60</td></tr>
<tr><td>Combined pills</td><td>Strip</td><td>300</td><td>60</td></tr>
<tr><td>Mycrolut</td><td>3 strips</td><td>450</td><td>90</td></tr>
<tr><td>Implanon</td><td>Implant 1</td><td>300</td><td>100</td></tr>
<tr><td>Condoms</td><td>Piece</td><td>0</td><td>0</td></tr>
<tr><td>Injection-Depo Provera</td><td>Amp</td><td>150</td><td>20</td></tr>
<tr><td>IUD</td><td>Piece</td><td>52</td><td>1</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table></td><td>Note of field visit to North Darfur State, 21-23 October 2017</td></tr>
<tr><td colspan="2">Stock on hand in NMSF Kassala State Warehouse</td><td>Note of interview and observation: NMSF Kassala</td></tr>
</table>

Question 5: Key Assumptions	Observations	Sources of Evidence

Products	In stock	Comments
Condoms (piece)	None in stock	But there are some from the HIV programme.
Mini pill (cycle)	4622	
Combined pill (cycle)	9000	
IUD (per piece)	675	
Implanon (implant)	1606	
Injectable (and syringe)	2001 vials	
Magnesium Sulphate IM or IV	3130 vials	
Oxytocin (ampoules)	2450	
Misoprostol Oral	0	Out of stock. Will be ordered in mid-November for the next quarter of commodity delivery from Khartoum.

State headquarters and warehouse, 23 October 2017, Kassala.

Al Saudi Maternity Referral Hospital, Kassala State

Products	In stock	Comments
Condoms (piece)	Yes for HIV; No for family planning	Not on the list to order condoms but there may be some from the HIV/STI programme.
Mini pill (cycle)	Yes 50+ boxes	
Combined pill (cycle)	Yes 50+ boxes	
IUD (per piece)	Yes	
Implanon (implant)	Yes	
Injectable (and syringe)	Yes	All in stock and available

Note of Interview with medical director and observation at Al Saudi Maternity Hospital and hospital warehouse, 23 October 2017, Kassala.

<table>
<tr><th colspan="2">Question 5: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="3"><table>
<tr><td>Magnesium Sulphate IM or IV</td><td>Yes</td><td>Magnesium was not on the labour ward. They said that when they need it, they go to the pharmacy to get it.</td></tr>
<tr><td>Oxytocin (ampoules)</td><td>Yes They get 2000 every three months.</td><td>Storage in pharm warehouse in fridge; on the labour ward in the freezer. Pharmacist says they use 3000 per month across all the 2-3 hospitals in Kassala state that use Oxy. Apparently there is more Oxy delivered in the free drugs or the emergency drugs up to 9000 every three months. So implication is that Oxy from UNFPA covers about 20 percent of need.</td></tr>
<tr><td>Misoprostol</td><td>No</td><td>Miso is locked in the director’s office and has expired. There is no more in the pharma warehouse.</td></tr>
</table></td><td></td></tr>
<tr><td colspan="3">Al Hidaya PHC Centre, Kassala<table>
<tr><th>Products</th><th>In stock</th><th>Comments</th></tr>
<tr><td>Condoms (piece)</td><td>1 box of 144 pieces</td><td>From the HIV Programme and not intended for FP</td></tr>
<tr><td>Mini pill (cycle)</td><td>50+ cycles</td><td></td></tr>
<tr><td>Combined pill (cycle)</td><td>50+ cycles</td><td></td></tr>
<tr><td>IUD (per piece)</td><td>No</td><td>No staff qualified IUDs to do in this clinic</td></tr>
<tr><td>Implanon (implant)</td><td>No</td><td>No staff qualified to do implants in this clinic</td></tr>
<tr><td>Injectable (and syringe)</td><td>Yes</td><td>Kept in a fridge in the pharmacy and seen (photographed).</td></tr>
<tr><td></td><td></td><td></td></tr>
</table></td><td>Note of interview and observation, Al Hidaya PHC Centre, 23 October 2017, Kassala State.</td></tr>
</table>

Question 5: Key Assumptions	Observations	Sources of Evidence
Magnesium Sulphate IM or IV — No — No Life Saving drugs as they do not do deliveries Oxytocin (ampoules) — No Misoprostol Oral — No		

State Ministry of Health – Reproductive Health Warehouse stock in hand:
The MoH keeps the UNFPA kits in their warehouse (not commodities which are handled by NMSF). Stock in hand included:

Products	In stock	Comments
Condoms (piece)	None	HIV condoms were in stock. No condoms for family planning.
Other: Kits -	2a&2b 3 6a&6b	Also fistula kits, blankets and other small items for women undergoing fistula repair during the upcoming fistula "camp" – a UNFPA sponsored week where women can have their fistula repaired. In Darfur, 86 women were recently repaired in a camp including a 72 year old who had suffered for 50 years+.

Observation and interview note, State Ministry of Health Warehouse visit and interview with State Reproductive Health Team, 23 October 2017, Kassala.

National stock and distribution to state warehouses under NMSF:

Quantity issued from central store in 2016 to Sep 2017

The delivery of reproductive health commodities by NMSF began in 2016 and consequently only a limited amount of data is available. The system used is based on request (a **pull system**) although in the first instance, a certain amount of commodity was distributed to all health facilities via state warehouses. The figure below shows the commodities issued from the central NMSF store to the 18 state warehouses during 2016 and 2017 (up to September). **NMSF delivers to states quarterly**. In the absence of the report on consumption from health facilities level, NMSF relies on the assessment of stock at central and state warehouses using information from the Enterprise Resource Plan (ERP) system in order to determine the amount to be issued to each state. **At the state level, distribution to individual health facilities is done based on requests.**

The graph shows a **rapid increase in the quantity of lifesaving drugs issued** up to September 2017 compared to 2016, particularly for Oxytocin. On the other hand, **contraceptive deliveries declined in 2017 mainly for the two types of pills**. This is likely explained by the low uptake of contraceptive pills at lower level, considering NMSF pushed out a huge quantity in 2016. For example, in Kassala, there were still 9000 boxes of combined pills in the main warehouse.

Compiled from observations, interviews and data collection from National Warehouse data system, October 2017, Khartoum.

Question 5: Key Assumptions	Observations	Sources of Evidence

However, this is not the case for the implant and injection where issuing increased in 2017. Interviews with staff at health facilities suggested that **implants and injections becoming more popular with local communities**.

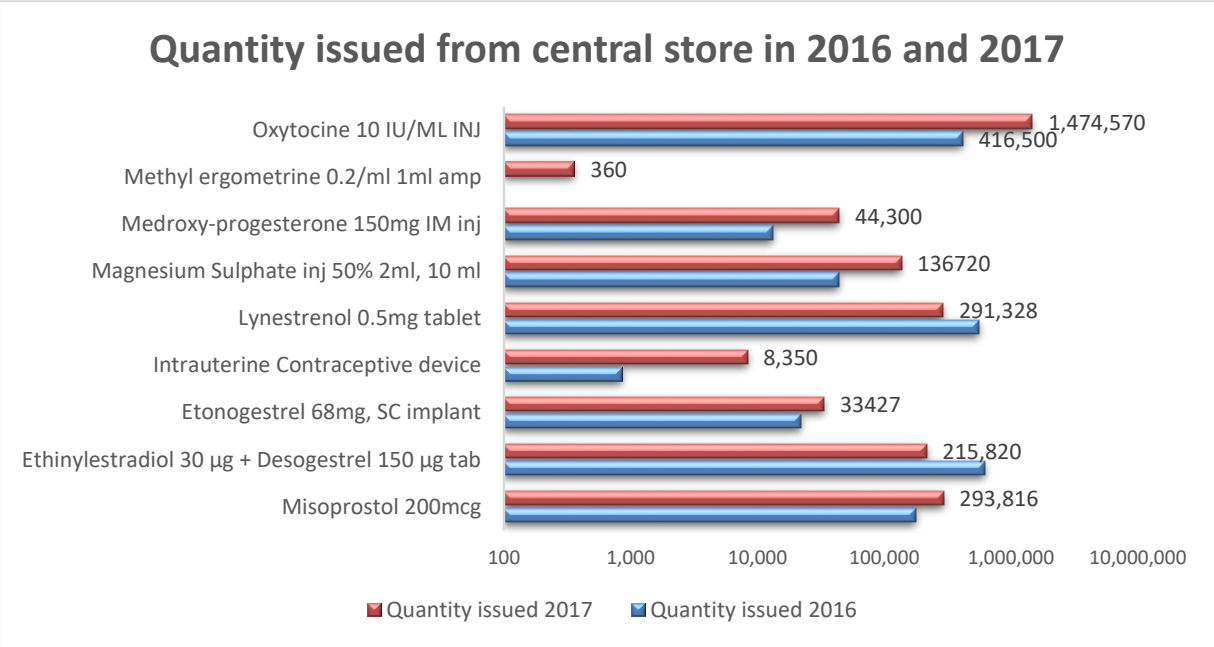


Table of quantities issued from main store to states store

Item	Unit	Quantity issued 2016	Quantity issued 2017
Misoprostol 200mcg	Tablet	177,704	293,816
Ethinylestradiol 30 µg + Desogestrel 150 µg tab (Marvelon)	Box of 3 strips	624,600	215,820
Etonogestrel 68mg, SC implant (Implanon)	Piece	21,952	33427
Intrauterine Contraceptive device (IUD)	Piece	850	8,350
Lynestrenol 0.5mg tablet (mini pill)	Box of 3 strips	561,152	291,328
Magnesium Sulphate inj 50% 2ml, 10 ml	Ampule	44,210	136720
Medroxy-progesterone 150mg IM inj (Depo Provera)	Vial	13,200	44,300

Question 5: Key Assumptions	Observations	Sources of Evidence

Methyl ergometrine 0.2/ml 1ml Amp	Ampule	0	360
Oxytocin 10 IU/ML Inj	Ampule	416,500	1,474,570

No stock outs of family planning

NMSF staff say there is no shortage of family planning anywhere. They take a weekly report from each state warehouse identifying stock levels and distributions. They do not have sight of consumption but aim to start working at locality level soon and health facility level using smart phone technology. In addition to the warehouse report, they phone a few health centres in a selection of states every week to ask about stock levels and cross check. However, **across the system, they are blind from the point of distribution in terms of actual consumption and need/ demand**.

Note of Interview with senior officials from the National Medical Supplies Fund including data managers, supply chain expert, and Warehouse controllers, 16 October 2017, Khartoum.

Stock movement and availability Sudan Family Planning Association:

Contraceptives received directly and indirectly from UNFPA 2015, 2016 + 2017

item	IPPF	UNFPA	2015	IPPF	UNFPA	2016	IPPF	UNFPA	2017	TOTAL
microgynon	185500	0	185500	0	0	0	30240	45360	75600	261100
marvelon	29500	0	29500	0	0	0	0	0	0	29500
microlut	24420	0	24420	1440	0	1440	0	30240	30240	56100
exluton	24576	0	24576	0	0	0	0	0	0	24576
Depo-Provera inj	7600	0	7600	9000	0	9000	0	0	0	16600
noristrat inj	120000	0	120000	0	0	0	0	0	0	120000
condom	4711	0	4711	0	0	0	0	0	0	4711
tcu 380a loop	12500	0	12500	100	0	100	0	6000	6000	18600
implanon	9463	0	9463	0	0	0	0	648	648	10111

The table shows the stock sent to SFPA in 2015, 2016 and 2017.

Records from Sudan Family Planning Association stock management system, October 2017, Khartoum.

Life-saving drugs

All the lifesaving drugs were seen in the main warehouse of Omdurman Maternity Hospital, the gynaecology department pharmacy and the maternity (labour and delivery) pharmacy. In terms of family planning, there were no condoms, no IUDs, no injectables in stock in the hospital. There were mini and combined pill and implants. The family planning room was closed and locked during the visit as there were few clients.

Observation note of visit to Omdurman Maternity Hospital, 17 October 2017, Omdurman.

Question 5: Key Assumptions	Observations	Sources of Evidence
Assumption 5.3: UNFPA Supplies has access to **high-quality supply chain management systems and to capability/expertise**, and the **ability to convey these and to share technologies** with the 46 programme countries.		
A functional National Supply Chain system in Sudan Since 2016, reproductive health commodities (contraceptives and the UNFPA donated maternal lifesaving drugs) are integrated with the NMSF structure at state level in terms of storage and inventory management. Commodities are delivered to the state's main warehouse (managed by NMSF). NMSF takes responsibility for distribution to localities (most common) or directly to health facilities (in North Darfur, this is less than 20 percent of commodities the previous quarter. Consumption information at localities/health facility level is not readily available.		Note from interview with UNFPA reproductive health team in Sudan, 15 October 2017, Khartoum
A functional National Supply Chain system in Sudan The **distribution from state to localities and health facilities is conducted monthly by NMSF-State**. **UNFPA kits are handled differently from the contraceptives and lifesaving drugs**. UNFPA, in collaboration with state MoH, decide on the quantity to be requested from the central level according to the emergency situation; state MoH then submits the order through state NMSF. Once received, it is distributed to sites by MoH or the organizations working in health (so not by NMSF). Some international organizations like MSF, Relief International, the Sudan FP association, also have their own parallel supply chain system which is working vertically to support small, specific groups likes IDPs.		Note of field visit to North Darfur State, 21-23 October 2017.
Supply chain disruptions at the last mile NMSF is delivering to three localities in North Darfur only and other **localities have to come to the capital Al Fashir to collect their commodities**. This is often done in an inconsistent manner and affects availability of family planning commodities at some health facilities. Two localities refused to collect contraceptives in the last three months and reported that the commodities they had were not moving; they were overstocked at health facilities.		Note of field visit to North Darfur State, 21-23 October 2017
NMSF delivers to the last mile in Kassala NMSF in Kassala is the main distributor of family planning (there is some available from Private Pharmacies/ private sector) and delivers directly to every health facilities in the state. Each year, NMSF and MoH at state level sit together to negotiate the items and quantities needed (it's a committee). The distribution is based on consumption but the new tracking system should improve information about consumption.		Observation note and interview: Kassala MNSF State Warehouse, 23 October 2017, Kassala.
Family Planning Commodity consumption tracking system: MoH has developed and distributed registries and these were seen in North Darfur health facilities. However they were not completed and did not seem to be used yet.		Note of field visit to North Darfur State, 21-23 October 2017.

<table>
<tr><th>Question 5: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="3">Assumption 5.4: At the country level, UNFPA Supplies support focuses on providing incremental value (adding to the efforts of government and others without duplication), supporting sustainability.</td></tr>
<tr><td colspan="2">UNFPA support to SFPA
SFPA clears products sent by IPPF through customs and stores in their own warehouses. Sometimes they deal with the National Medicines and Poisons authority. Products from UNFPA are collected immediately from the national NMSF Warehouse and then stored in SFPA warehouses. The total amount of product from UNFPA is not always clear. Products are delivered to facilities by SFPA using a pull system and private transport.</td><td>Note of interview with SFPA, 17 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">UNFPA Role on RHCS Committee
The Reproductive Health Commodity Steering (RHCS) committee is convened four times a year (in reality it meets twice a year usually) by the MoH Reproductive Health unit which also takes/ distributes the minutes. UNFPA is a member. Other partners sit on the committee including NGOs, the Sudan Family Planning Association, donors where they exist, the Sudan National Population Council. The purpose of the committee is to “discuss and resolve problems related to the secure supply of reproductive health commodities”. Minutes of meetings were seen for 1 July 2015, 15 November 2015, 2 July 2016, 12 October 2017, and one undated set of minutes. Meetings took place at the Ministry of Health and were chaired by a ministry official (usually).</td><td>Note of interview with UNFPA Reproductive Health Team, 19 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">Meeting minutes – Action Points of the RHSC Committee:
Actions aimed at improving distribution and use of family planning commodities including the discussions around integrating RH commodities into the NMSF system.
<table>
<tr><th>Action point</th><th>Responsibility</th></tr>
<tr><td>Review existing supervision format (RH commodities)in order to update it</td><td>National Reproductive Health Programme (NRHP)</td></tr>
<tr><td>Agreement at national and state levels on Free of Charge Policy implementation</td><td>NRHP, Central Medical Stores (CMS)</td></tr>
<tr><td>Conduct meeting NRHP-UNPA-CMS to finalize consensus about integration of RH commodities through CMS</td><td>NRHP, CMS</td></tr>
<tr><td>Distribution of wall chart including FP protocols to pharmacies especially private</td><td>NRHP.</td></tr>
</table></td><td>Minutes of the RHCS Committee meeting, 1 July 2015, Khartoum.</td></tr>
<tr><td colspan="2">Meeting minutes – Action Points of the RHCS Committee

NRHP to invite UNDP and the Union importers of medicines and medical supplies
NRHP and UNFPA to conduct forecasting and quantification training targeting the members of forecasting working group and RH states mangers</td><td>Minutes of the RHCS Committee meeting, 15 November 2015 Khartoum.</td></tr>
</table>

<table>
<tr><th>Question 5: Key Assumptions</th><th>Observations</th><th>Sources of Evidence</th></tr>
<tr><td colspan="2">NRHP to communicate the National Sudanese Medical Council regarding pre-service training of pharmacists (family planning services).
NRHP and UNFPA to conduct RHCS situational analysis.</td><td></td></tr>
<tr><td colspan="2">Meeting minutes – Action Points of the RHCS Committee
Aimed at improving training of pharmacists and others, broadening the membership of the RHSC Committee, doing a situation analysis.

<table>
<tr><th>Action point</th><th>Responsibility</th></tr>
<tr><td>Communicate the National Sudanese Medical Council regard pre-service training of pharmacists (family planning services).</td><td>NRHP</td></tr>
<tr><td>Conduct forecasting and quantification training targeting the members of forecasting working group and RH states mangers.</td><td>NRHP+UNFPA</td></tr>
<tr><td>Invite UNDP ,Union importers of medicines and medical supplies</td><td>NRHP</td></tr>
<tr><td>RHCS situational analysis</td><td>NRHP+UNFPA</td></tr>
</table></td><td>Minutes of the RHCS Committee meeting, 2 July 2016, Khartoum.</td></tr>
<tr><td colspan="2">Meeting minutes – Action Points of the RHCS Committee
The meeting agree on the following
To rely on NMSF previous consumption data of the lifesaving drugs
Demographic data from the latest survey
Focusing on the long acting will improve the clients satisfactions and decrease the SC cost

Quantification method:
<u>Misoprostol</u>
Service data, and considering the task shifting and the piloting of the use by MW
<u>Mg Sulphate</u>
Service data, and NMSF consumption data and not to bring the 2ml dosage.
<u>Oxytocin</u>:
Use the service data at health facilities + NMSF consumption data [note: this is distribution data]</td><td>Minutes of the RHCS Committee meeting, 12 October 2017, Khartoum.</td></tr>
<tr><td colspan="2">Support to information generation
The national facility-based RHCS assessment survey that is conducted on annual basis provides information on several aspects of Health Facilities that are common between maternal health and RH supplies such as human resources,</td><td>Note from interview with Maternal Health adviser, UNFPA Sudan, 27 October 2017, Khartoum.</td></tr>
</table>

Question 5: Key Assumptions	Observations	Sources of Evidence
infrastructure, supervision, availability of guidelines, check-lists and job aids at SDPs and availability and use of information and communication technologies.		
Recommendations from the National Facility based Survey 2015: *1- The FP services need to be expanded geographically, especially at primary care level, in both rural and urban areas as this level is closer to the communities and families; and also to be expanded in terms of types of methods provided at the SDP.* *2- Sensitization is recommended to increase the demand for some contraceptives like the female condom which was mainly out of stock due to lack of demand.* *3- To accelerate the integration of the RH/FP commodities within the existing integrated national supply chain managed by NMSF to cover all states.* *4- More investigations are needed to find out the reasons behind that SDPs run by trained care provider are not providing three or five methods.* *5- Continuous training for the insertion and removal of implants is encouraged to cater for the gap of lack of trained service providers, a major reason for the stock-out of two methods including implants and IUDs. This would ensure that even when staff leave a facility or are transferred to another department, there is continuity in provision of FP services.* *6- Regarding the glaring gap in availability of essential life-saving maternal and RH medicines, the recommendation to improve supply chain management has already been made and cannot be overstated.* *7- Capacity building of managers at state, locality and SDP levels, especially on quantification, inventory management and reporting.* *8- As part of the MCH strategic plan, ensure provision of cold chain equipment to rural and state hospitals where there are gaps in this type of equipment to be able to provide EmONC services as some of the live-saving medicines are keep cool items.* *9- …It is recommended that the MoH and its partners intensify the distribution and use of the guidelines and job aids in the different facilities where they were missing.* *10- …It is recommended that further investigation be done on the issue of user fees payment in facilities where FP services are supposed to be provided for free…Government and other actors in RH service delivery should also where possible incentivize provision of free FP services in private-for profit health facilities where such partnerships are possible. (p.82)*		Sudan Facility Based Assessment for Maternal Health Commodities and Services, National Reproductive Health Programme in collaboration with UNFPA, Maternal and Child Health Directorate, MoH, December 2015

8.6 - Improved programme coordination and management	
Evaluation Question 6:	To what extent have **the governance structures** (UNFPA Supplies Steering Committee) **management systems and internal coordination mechanisms** of UNFPA Supplies **contributed to** overall **programme performance?**

Sub-Questions:	To what extent have the UNFPA Supplies Steering Committee and UNFPA programme managers (HQ, Regional and COs) been effective in **providing strategic direction and oversight** to UNFPA Supplies as well as **internal programme coordination** at the global, regional and national level? Are Steering Committee members satisfied with the current governance structure? Have systems for **work programming, budgeting, review and approval** been effective at the global, regional, and country level? Has UNFPA Supplies been **effectively integrated into UNFPA country programmes**? Has UNFPA Supplies been able to assemble and deploy the **required human resources with the appropriate mix of skills and capabilities** to effectively support programme implementation at global, regional and national levels? To what extent have the **systems for results-monitoring, reporting and accountability** for UNFPA Supplies been effective? Have they contributed to **learning and knowledge management** and to ongoing programme management?
Question 6: Key Assumptions	

Observations	**Sources of Evidence**
Assumption 6.1: Systems for work planning, budgeting, approval and review of UNFPA Supplies at the country level incorporate **meaningful participation by national health authorities, implementing partners and other key stakeholders**.	
Decisions about commodities (type and quantities) taken after consultation between UNFPA, the state ministry of health and the NMSF.	Note of field visit to North Darfur State, October 21-23 2017.
MoH concerns about UNFPA Supplies: 11 States were selected for community outreach (six stated from UNFPA Supplies) and five Darfurs through CERF/CHF). Of these, UNFPA focus states were selected in 2013 and haven't been revised since. The circumstances in the country have changed and they should have more flexibility to change the focus states within the period of the Country Programme Assistance Plan. Although UNFPA has done some training - for example 200 or so midwives – there are 22,000 midwives. 25 obstetricians were trained to insert implants with the understanding that they would each train another 20 people but the monitoring of this commitment is not clear; two trainings for medical officers; two trainings for sisters (Registered Nurses). In the last two years, there have been no funds from UNFPA for training so the government has paid and also received some from JICA (for example, in Jazera).	Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
CPD Output 4: Comprises of three strategic interventions that aim to strengthen national systems for reproductive health commodity security and for the provision of family planning services. Specific interventions are for: (1) strengthening the health information and logistics system; (2) advocating reproductive health commodity security, including the prevention of HIV/AIDS; Enhancing the capacity of health care providers to deliver high-quality family planning services.	*Country Programme Action Plan Between UNFPA and the Government of Sudan (2013 – 2016)*

Observations	Sources of Evidence
UNFPA had 33 strategic interventions in its 2013 -2016 plan including: CPD 1: Population (including young people) – five interventions CPD 2: Increase demand for information and services related to RMNCAH and HIV – five interventions CPD 3: Increase availability of information and services for maternal and newborn health and HIV prevention for underserved populations and people with special needs – ten interventions CPD 4: Strengthen national systems for reproductive health commodity security and provision of FP services – three interventions CPD 5: Gender equality, child marriage, FGM – ten interventions.	
Decision making In 2016 the budget cuts meant that many of the activities agreed upon by UNFPA and the MoH were no longer affordable. The decisions about what to cut were taken in a way that meant technical staff were not consulted. As a result, some priorities were cut while other less important activities were retained.	Note of interview with MoH – RH staff, 16 October 2017, Khartoum.
Assumption 6.2: UNFPA Supplies has been able to access **appropriate and needed human resources** at the global, regional and national level.	
More staff Given the role and importance of UNFPA to building up the commitment to and supply of family planning in Sudan, it would be appropriate to have more staff, including international family planning experts (P4/ P5 level).	Note of Interviews with UNFPA Sudan leadership, 17 October 2017, Khartoum.
Assumption 6.3: The systems and processes for the **governance of UNFPA Supplies** (including the UNFPA Supplies Steering Committee) have been effective in balancing the viewpoints of donor partners, programme country health authorities, programme managers and other key stakeholders in providing **strategic direction and over-sight** which is **responsive to differing contexts and changing conditions**.	
Links between MoH/ RH and NMSF The Reproductive Health Unit at the MoH does not routinely get reports from NMSF about commodity distribution. They didn't know that MNSF does reports and could share them.	Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
Links between MoH/RH and NMSF The records of distribution and weekly stock levels are not sent automatically to the MoH Reproductive Health Unit. Apparently they never asked for them. They send weekly and monthly stock reports to UNFPA and discuss these with UNFPA officials but not with MoH officials.	Note of Interview with senior officials from the National Medical Supplies Fund including data managers, supply chain expert, and Warehouse controllers, 16 October 2017, Khartoum.

Observations	Sources of Evidence
Support to communication between national and state levels There are persistent differences in the federal and state levels capacity and communication. There is also a continued need to strengthen forecasting, distribution, stock management and significant gaps between state and localities especially in capacity, and supply chain information (e.g. consumption).	Note of Interviews with UNFPA Sudan leadership, 15 October 2017, Khartoum.
UNFPA support to coordination between MoH and MNSF Coordination between the UNFPA state level team and the MoH reproductive health unit is **quite strong**, besides the regular meeting, the communication and connection is very effective. **However, NMSF state branch is isolated**. For instance; NMSF state branch is not situated within the state-MoH office and does not closely work with MoH and other partners to develop distribution plans or re-supply requests. MoH identified this as one reason why there was an imbalance of commodities at some lower level sites with overstocking (expired commodities) in some facilities and stock outs in others.	Note of field visit to North Darfur State, 21-23 October 2017.

8.7 - Cross Cutting Theme: The Catalytic Role of UNFPA Supplies	
Evaluation Question 7:	To what extent has UNFPA Supplies **played a catalytic role** by leveraging increased investment by other actors and supplementing existing programmes in RH/FP at global, regional and national levels?
Sub-Questions	To what extent has UNFPA Supplies been able to leverage increased investments and commitments by other actors in support of RH/FP commodities and services at global, regional and country level? To what extent has UNFPA Supplies programming been **sufficiently flexible and responsive to changing country needs and priorities**, including during and after humanitarian crises? To what extent has UNFPA Supplies supported **effective action to mitigate environmental risks** in procurement and disposal of RH/FP commodities?

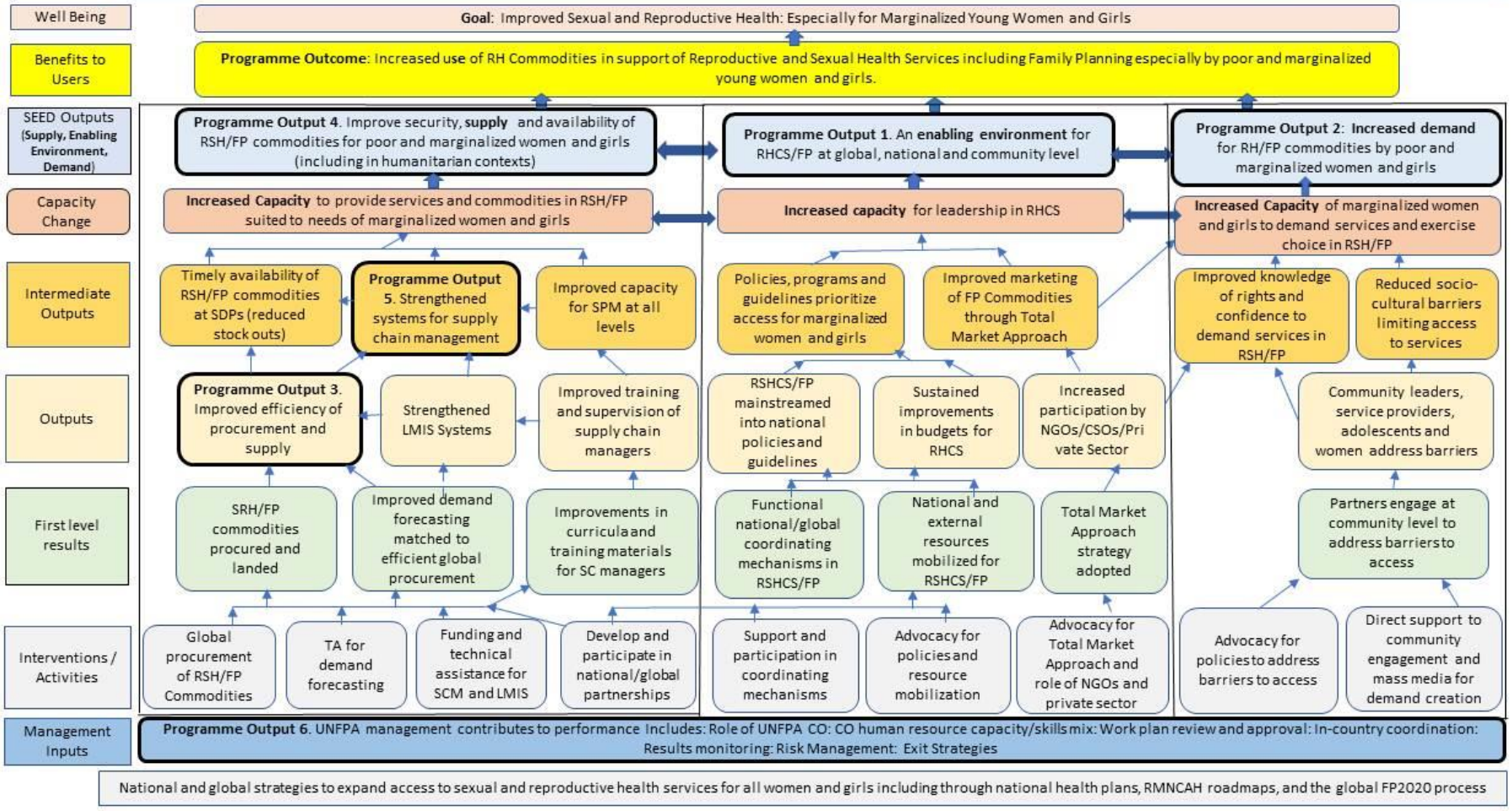
Question 7: Key Assumptions	Observations	Sources of Evidence
Assumption 7.1: The **design of UNFPA Supplies** as reflected in strategic documents and in systems and processes for programme planning, approval and review, takes account of the roles of other actors and sources of support to RH/FP and attempts to influence them in their programming.		
Funding approach A new country programme cycle for 2018 to 2021 has been agreed with the GoS in broad terms and the details and activities are being shaped now. There is an integrated approach to planning both across disciplines and funding streams. So several sources of funding can contribute to an activity or work stream.		Note from interview with UNFPA reproductive health team in Sudan, 15 October 2017, Khartoum

Question 7: Key Assumptions	Observations	Sources of Evidence
The funding landscape: UNFPA funding allocations should take account of what other funding sources are available in a country. For example, in Sudan, where **UNFPA is the only partner working on family planning**, more funding should be available to the CO because there is so much to be done and resources are too stretched. In other countries where there is so much funding from a wide range of donors, UNFPA should not get so much for commodities or for activities but rather focus on improving the supply chain, improving demand etc. It has been hard to move CPR much (although it has started shifting after years of stagnation. It requires a huge effort and also more staff, more commodities, more activity funding.		UNFPA Leadership in Khartoum, 17 October 2017.
MoH views of UNFPA Supplies approach to coordination and support: UNFPA supports the quantification process for family planning commodities. UNFPA is the only supplier/ funder of family planning commodities in Sudan. The **Government of Sudan does not finance any family planning commodities**. Nor does the national Medicines Supplies Fund. However, the MoH said that although the UNFPA and Reproductive Health Unit work together to agree a UNFPA workplan and activities, the final version when it is signed by the Secretary of Health and the UNFPA Country Representative, the activities have changed, been reduced or removed from the final plan. This happens without consultation and without negotiation. For example, last year – 2016 they agreed three interrelated fistula activities (train 25 medical officers in early diagnosis and referral, send one obstetrician to Khartoum for intensive training, and improve rehabilitation opportunities for patients recovering from fistula.		Note of Interview with the Ministry of Health Reproductive Health Unit, 16 October 2017, Khartoum
Assumption 7.2: The process for planning, budgeting, implementing, reviewing and monitoring UNFPA Supplies at country level is **responsive to the needs of national stakeholders** (national authorities, development partners, NGOS, civil society and the private sector) including in humanitarian settings. It also contributes to **strengthened/increased action** to address needs.		
UNFPA Supplies improved response to national needs There have been significant improvements in the management of UNFPA procured supplies since the 2015 audit. In particular, the shift from UNFPA to MoH as co-consignee has increased the speed and efficiency of customs clearance and the process is much faster, smoother now. The NMSF is now a UNFPA implementing partner and is responsible for receiving and distributing materiel to state level.		Note from interview with UNFPA leadership in Sudan, 15 October 2017, Khartoum.
Audit follow-up One of the audit (2014) findings was to reduce the storage of kits in anticipation of an emergency. As a result, there is no longer “a store of kits.”		Note from interview with UNFPA humanitarian team, 15 October 2017, Khartoum.
UNFPA as a partner Much appreciated for their partnership, accompanying the MoH and working alongside the MoH. They work very closely together.		Note of interview with Reproductive Health Team, State MoH, Kassala, 23 October 2017.

Question 7: Key Assumptions	Observations	Sources of Evidence
UNFPA supports M&E and helps with visits and supervisions. They benefit a lot from technical assistance They use UNFPA vehicles when needed. But UNFPA requires the accounts to be done twice: once for the MoH and once for UNFPA. The systems are slightly different from each other The UNFPA expenditure management system often releases funds late in each trimester (for example, funds for October to December have not arrived yet). Funds from July to September arrived in August and that means that activities for three months have to be done in two months rather than three.		

5.2 Annex 2: Comprehensive theory of change for the UNFPA Supplies Programme

Figure 2: Programme Theory of Change for UNFPA Supplies



5.3 Annex 3: Persons Interviewed

Federal Level – Khartoum State		
FMoH-Reproductive Health unit	Nuhaa Abdul Datah Salheem	FMoH, RH/Unit Manger
	Elghazali Ahmed	FMoH, RH/RHCS focal person
	Hiba Elhaj	FMoH, RH/Safe motherhood focal person
	Iman Babikir	M&E and planning officer
Khartoum State MOH- RH and Free Medicines	Rayan Taha Elamin	KH-MoH/FP coordinator
	Amani Nour	KH-MoH/Free medicines coordinator
UNFPA	Lina Mousa	UNFPA/Country representative
	Mohamed Lemine	UNFPA Deputy Representative
	Mohamed Sideahmed	UNFPA/RH unit manger
	Elhabib Hamdok	UNFPA/Gender Specialist
	Sufian Abdin	UNFPA/RHCS officer
	Haytham Taha	UNFPA/HIV officer
	Rowaym M Elhassan	UNFPA/RHCS Officer
	Inas Mubarak	UNFPA/HIV officer
	Abeer Salam	Humanitarian coordinator
UNDP- Global Fund for AIDS, TB and Malaria	Eltayeb Saeed	Supply Analyst
WHO	Wisal Mustaffah	Consultant Obstetrician
	Hiba Hussein	WHO Gender coordinator
	Maison Elamin Hamid	Safe Motherhood coordinator
NMSF	Tahani Ebdelrahim	NMSF/States Affair manager
	Isra Musa	NMSF/Supply officer
	Aiman Ali	NMSF/Stock control manager
Sudanese Family Planning Association (SFPA)	Nagat Mohamed	SFP/Programme Director
	Mohamed Gafar	SFP/Supply officer
	Amtig Mohamed Osman	SFP/Coordinator
	Salma Kanain	SFP/
Omdurman Maternity Hospital	Mahasin Ali	Nurse -Family planning
	Mumin Widda	Main store keeper
Alta Widat Health Centre, Khartoum	Ihlam Hassan	Health Centre Coordinator
	Amer Mohamed	Physician
	Fatima Ibrahim Ali	FP-Certified Nurse
	Hajir Gism	FP-Certified nurse
State Level – North Darfur State		
UNFPA state office	Hussein Bahar	Office Manager
State MoH-RH unit	Hassanat Elnour	RH department director
	Abubaker Mohamed	NMSF – State Branch
Sudanese Family Planning Association – State Branch	Huida Mohamed	
	Khalil Adam	SFP-Manager
	Mastura Yahia	FP-certified nurse
El Fashir Maternity Hospital	Ahmed Alnour	Pharmacist assistant
	Amal Ahmed Abuelgasim	Physician
Satellite Health Centre – Abu Shouk Refugee Camp	Amal Ahmed Abuelgasim	Physician
	Halima Abdallah Adam	Medical Assistant
MSF -Spain	Ibrahim Ali Balah	Health coordinator

State level – Kassala state		
UNFPA state office	Moamar Eltaib	Director, UNFPA State office
State Mo- RH unit	Abdelgadir Abdelwahab	Deputy RH Coordinator
	Mohmed Ahmed Hassan	Reproductive Health Supply Manager
	Tarig Amin	Drug store keeper
	Dr Tahani Khader	Nutrition Coordinator
NMSF – State Branch	Yassin Mohamed Ali	State Medical Supplies Fund
El Saudi Maternity Hospital	Abker Ramadan	Medical Director
	Omer Suliman	Senior Pharmacist
	Awadia Abdoelrazik	Family Planning Nurse
Health centre – Al Hidaya PHC	Mohamed Mineh	Clinic Health Assistant
Jasmar (umbrella NGO)	Mohamed Ali Abdullah	Coordinator

5.4 Annex 4: References

Audit of the UNFPA Country Office in Sudan, Final Report (No. SDN-103), 4 February 2015, Office of Audit and Investigation Services, UNFPA.

Country Programme Action Plan Between UNFPA and the Government of Sudan (2013 – 2016)

Joint Assessment of Sudan's National Health Sector Strategic Plan (NHSSP, 2012-2016)

January 2013

International Development Association, Interim Strategy Note, (FY 2014-2015) for the Republic of Sudan, August 30, 2013, World Bank, Washington D.C.

Knowledge, Attitude, Practice Survey, Baseline KAP study on RMNCH/FGM related issues in Sudan, Directorate of Family Health, Ministry of Health, Sudan. No date on draft document but either 2015 or 2016.

Management Protocols of Main Causes of Maternal Death, 2016

National Human Resources for Health, Strategic Plan for Sudan, 2012-2016, Federal Ministry of Health Directorate General of Human Resources for Health Development, Government of Sudan.

National Reproductive Health Commodity Security Strategy and Operational Plan 2012 -2015, Ministry of Health, UNFPA, and WHO.

National Reproductive Health Programme, Khartoum, 2012.

National Medical Supplies Fund, introductory material collected 16 October 2017, Khartoum.

Multiple Indicator Cluster Survey, Ministry of Health and UNICEF, 2014, Sudan, MICS 2014, UNICEF and MOH, Khartoum, 2014.

Pledge document on RMNCAH signed by the President of Sudan, 7 September 2015

Sudan Facility Based Assessment for Maternal Health Commodities and Services, National Reproductive Health Programme in collaboration with UNFPA, Maternal and Child Health Directorate, MoH, December 2015

Sudan Humanitarian Needs Overview 2017, published December 2016, UN OCHA

Sudan Free of Female Genital Cutting (SFFGC), Annual Program Review, March 2016, DFID, UK

10 in 5 Strategy: RMNCAH Strategic Plan 2016- 2020, General Directorate of Primary Health Care, Federal Ministry of Health, Republic of Sudan, September 2015

UNDAF preparation: Common Country Analysis for Sudan Desk Review, Draft – April 2016, Khartoum.

UNFPA. *Mid-term Evaluation of the UNFPA Supplies Programme (2013-2020): Terms of Reference,* October, 2016.

UNFPA, Evaluation Office, *Inception Report of the Mid-Term Evaluation of UNFPA Supplies*: UNFPA, September, 2017.

UNFPA, Regional Programme Action Plan for Arab States Regional Office 2014-2017, July 2013.

UNFPA Sudan Country Annual Joint Reports for the Reproductive Health Thematic Trust Funds (TTFs) MHTF and RHCS, 2013, 2014, 2015, 2016.