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Public Expenditure Tracking Survey (PETS)

Case Study of the Health Sector

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ACRONYMS AND ABBREVIATIONS

ARI	Acute Respiratory Infection
BCG	Bacille Calmette-Guérin (vaccination against tuberculosis)
CBoS	Central Bank of Sudan
CBS	Central Bureau of Statistics
CPA	Comprehensive Peace Agreement
DPT1	Diphtheria, Pertussis, Tetanus (vaccination)
FFMAC	Fiscal and Financial Allocation and Monitoring Commission
FMoFNE	Federal Ministry of Finance and National Economy
FMoH	Federal Ministry of Health
GFS	Government Financial Statistics
GoNU	Government of National Unity
GoSS	Government of Southern Sudan
HFSD	Health Facility and Service Delivery
INC	Interim National Constitution
MDTF-N	National Sudan Multi-Donor Trust Fund
MSC	Medical Supply Corporation
NBHS	National Baseline Household Survey
PER	Public Expenditure Review
PETS	Public Expenditure Tracking Survey
PFM	Public Financial Management
PHC	Primary Health Care
PRS	Poverty Reduction Strategy
QSDS	Quantitative Service Delivery Surveys
SDG	Sudanese Pound
SHHS	Sudan Household Health Survey
SMoF	State Ministry of Finance
SMoH	State Ministry of Health
WB	World Bank

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EXECUTIVE SUMMARY

1.1 The Sudan referendum on post-CPA arrangements was held during January 9-15, 2011 with results in favor of secession of the South by July 9, 2011.¹ The economic effects will transmit largely through the fiscal and external accounts and the outcome of secession negotiations will determine the post-CPA economic landscape. The secession outcome will likely put significant strain on economic stability in the North.

1.2 A significant fiscal adjustment will be necessary and a large part of the burden is expected to fall on the expenditure side. In fact, a fiscal crisis is looming. Estimates of GoNU's oil revenue losses, based on a Bank staff analysis and a set of hypothetical scenarios suggest the oil revenue losses could be in the range of 1-2 percent of GDP in 2011 and around 1.6 - 3.2 percent of GDP in 2012. These magnitudes were subsequently confirmed by the authorities in the amended 2011 budget, which was published in mid-year 2011 and the draft 2012 budget, which was discussed in parliament in December 2011. At the same time, efforts to boost other sources of revenue may have limited impact in the near term due to the protracted nature of on-going reforms, combined with possibly declining economic activity from the loss of oil sector rents and a weakening multiplier effect throughout the economy.

1.3 Back in 2005, the Comprehensive Peace Agreement (CPA) and the adoption of the Interim National Constitution (INC) led to a new articulation of fiscal federalism. But fiscal decentralization, while key to the vision of the CPA and INC, poses a number of challenges to revenue management. To fulfill service delivery responsibilities, sub-national levels need adequate revenue to conduct expenditure assignments and address regional/local needs. Overall GoNU budget allocations in the CPA-period largely reflected the new priorities. Over the five year horizon from 2005 to 2009, budget allocations from GoNU to the Northern States and to the GoSS increased substantially. So overall budget trends since 2005 were consistent with the devolving responsibility for basic service delivery to sub-national governments.

1.4 According to a recent study on poverty estimates in Northern Sudan, commissioned by the Government of Sudan, the incidence of poverty in Northern States is 46.5 per cent. The trends in this government study are confirmed by the World Bank's work on poverty profiles, which are based on the same data set. But despite the alarming results on the incidence of poverty, GoNU's budgeted allocations to pro-poor spending for 2009 were much lower in the final budget than in the previous years; in fact, they had been at the lowest level since the CPA. In 2009, this reflected the impact of a reduced budget envelope as a result of the dropping oil prices in light of the global crisis. And it also showed the weakness of a system where expenditures are driven mainly by the levels of revenues and do not follow a planned budget process based on clearly identified priorities.

1.5 Given the new reality of the post-referendum world more pressure will arise, which may further strain the pro-poor direction of the government agenda. While many efforts are under way to keep up the momentum and direction to continue service to the poor and vulnerable, the need for doing more with less through increased efficiency in government systems is imperative. This PETS aims to provide some lessons on how to reach such a more efficient path of government finance.

¹ This report was produced in the first half of 2011 for pre-secession Sudan and therefore refers to Northern Sudan, Northern States, GoNU as was practice during the CPA period between 2005 and July 2011.

1.6 **The main findings of the report are highlighted below:**

Evolution of Northern States Budgets

1.7 **Total revenue in Sudan's Northern States, classified into transfers from the federal government and own revenue have increased substantially over the past decade and at the same time the states have ever increased their dependency on transfers to meet their responsibilities for basic service delivery.** Northern States' own revenue mobilization showed modest growth, especially over the CPA interim period. The weak own revenue mobilization efforts can be attributed to a number of factors and comes despite the fact that the INC of 2005 grants governments of Northern States the right to legislate for raising revenue collection through a variety of local taxes and charges for services provided by the state. But in fact, the low level of revenue produced by taxes levied by the state governments is a consequence of their narrow tax base and the fact that most of the productive and buoyant sources of tax revenue (e.g. income tax, value added tax, customs) have been assigned to the federal government.

1.8 **Weak budget credibility is a serious challenge for development transfers to sub-national governments. And development transfers are highly vulnerable to the revenue volatility on the federal level, which translates into volatilities in lower administrative levels.** In the wake of the global financial crisis, for instance, where revenues fell on the federal level, the budget execution rate of development transfers plummeted from 72 percent to 64 percent and to 56 percent over the period 2008 to 2010. Over the same time, the GoNU revenue budget execution rate fell from 117 percent to 80 percent, respectively. This under-performance in the budget execution, which was already highlighted in the PER (2007) and in subsequent World Bank studies such as the Country Economic Memorandum (World Bank, 2009), remains a major obstacle to improving social spending and channeling capital expenditures to priority areas.

1.9 **To increase predictability, active expenditure management is needed on the federal and state levels.** The low execution on federal development transfers has significant implications for the budget planning and execution of the states. It undermines state fiscal space to maintain basic infrastructure spending and to undertake vital development projects. In the absence of predictable flows of resources to the states, state development execution is equally jeopardized. But to maintain or improve services delivery at the state and local levels, states require predictable flows of resources given that most states are heavily dependent on federal transfers. States own revenues account for less than 40 percent of Northern States aggregate revenues (Figure 3-1) and cannot come to the rescue in difficult times. This is a consequence of the States' narrow tax base in a system where over time the productive and buoyant sources of tax revenue (e.g. income tax, value added tax, customs) have been assigned to the federal government.

1.10 **Federal transfers to the Northern states are discretionary in the sense that while the CPA commits to decentralization and pro-poor development, there are no fully enforced and simple formulas and neither are they enshrined into the INC.** Likewise, monitoring and institutional arrangements to ensure fair transfers are insufficient. The lack of transparency leads to a great degree of unpredictability from a state perspective. In an effort to increase transparency and fairness in the allocation of funds to the Northern States, a high level

Fiscal and Financial Allocation and Monitoring Commission (FFAMC)² was formed in 2005. But in reality, the FFAMC was not functioning sufficiently due to a series of institutional problems.

1.11 Northern States' expenditures have increased significantly over the past decade. The aggregate Northern States' expenditure per capita has grown by over five times since 2000. At the background of rising aggregate expenditures across all Northern States, health expenditures have grown proportionally in total terms. Increases in health sector spending compare favorably to other sectors, such as education. Spending on the latter decreased relative to overall spending. It comes at this background that the choice of the health sector for this study is particularly appropriate since spending on health is relatively high within Sudan, while health outcomes remain modest somewhat indicating a significant level of inefficiencies in the financing of the sector.

1.12 Comparing per capita overall expenditure of Northern States with poverty rates observed in states shows that there is an opportunity to refocus expenditure to those states with higher poverty rates. Khartoum, River Nile and Northern are the three states with the highest average per capita expenditure of Northern States between 2000 and 2009. At the same time they have among the lowest poverty levels. Then there are states such as North Kordofan, White Nile, and South, North and West Darfur, which have very low levels of expenditure – particularly development expenditure – and the highest poverty rates. Developments of health expenditures and poverty rates confirm this imbalance.

Tracking Resources in the Health Sector

1.13 There are significant disparities in funding of health sector services between states. State allocations to health sector are a function of the overall resource envelope for the state. The disparities are significant as concerns the available resource envelope for health, sources of funding and the level to which available resources reach facilities. Blue Nile spent approximately 41 SDG per capita at the one end while at the other, South and North Kordofan spent respectively 10 and 13 SDG per capita.

1.14 There is also a wide variation across states of total resource flows and their utilization at different levels of the health system.³ In total for all states 19 percent of total expenditures are executed at state level, 16 percent at locality level and 65 percent at facility level. Khartoum and South Kordofan display the highest share of spending executed at facility

² The CPA defines the FFAMC's responsibilities: to monitor and ensure that equalization grants from the National Revenue Fund are promptly transferred to respective levels of government; to ensure appropriate utilization and sharing of financial resources; to ensure that resources allocated to war affected areas are transferred in accordance with agreed formulae; and to ensure transparency and fairness in the allocation of funds to the GOSS and states/regions according to established ratios or percentages stipulated in this Agreement.

³ The study recognizes the unique position of Khartoum State within the federal system of Northern Sudan. For instance, due to its status as political and economic centre, Khartoum attracts a lot of temporary residents in search of jobs, education, health services and others. It is therefore likely that Khartoum's health facilities do provide services to non-Khartoum citizens who are hard to be tracked and recognized; this may lead, to some extent, to overstated per capita calculations for Khartoum-related indicators in this study. Still, it is clear that Khartoum, the capital of Sudan, in general tends to receive more resources than other States in Sudan. To account for this bias, the study incorporates, where possible, a benchmark comparator, which usually is the average of the PETS sample states in regards to a certain indicator or a the total of all PETS sample states; where data allowed, the study also projected the results to the aggregate of all Northern States.

level (75 percent and 65 percent, respectively) as compared to the others (between 38 and 59 percent).

1.15 State and locality allocations for health are partly utilized at the respective levels and partly transferred to lower levels of which some are transferred or spent for facility level inputs. Data provided by SMoF and localities suggest that of total public spending from state and locality budgets on health, 45.4 percent are charged as facility expenditure. These resources account for 48.8 percent of facility level resources inputs.

1.16 According to facility level data only 27.0 percent of the total states and locality expenditure actually reaches the facilities as compared to the 45.4 percent that state and locality levels claim have been used for facility level inputs. This result is obtained by comparing the records by state and localities as charged for the benefit of facilities with data from facilities of what they actually have received.

1.17 A major share of the resource inputs at facility levels are funded from user fees rather than state and locality budgets. User fees account for 32.1 percent of facility level inputs. In some states a major share of the user fees are transferred to the SMoF and constitute a major source of revenue compared to state level spending on health. In Red Sea, Blue Nile and Khartoum a significant share of the expenditures are funded by user fees rather than federal transfers and regular tax revenue. This might be a response to the deprivation of the most lucrative tax incomes over the past decade, which were taken on by the federal level (e.g. agriculture tax and sales tax). Much more, in search for a stable source of income to balance uncertainties around federal transfers, states may have had an incentive to look at user fees in health as alternative. In South Kordofan, however, facilities retain all the fees collected.

1.18 Fees are an important source of financing particularly for hospitals and health centers, while other primary level facilities generate additional funding from user fees only to a limited extent. At hospitals 73 percent of the user fees used for salaries are used as bonuses and allowances adding to the regular salaries paid from federal and state budgets. In contrast, at health centers, 93 percent of the user fees for salaries are used for paying of additional staff over and above what is being paid by state and locality budgets or for extra shifts and consultations. It remains unclear how the use of fees is governed and how transparent the levying mechanism is on the health facility level.

1.19 At facilities, a large number of the approved positions remain vacant with as many as 62 percent of the posts vacant at primary levels. Vacancy rates vary across professional categories and tend to be higher for higher skilled jobs. At the same time, the level of vacancies for different types of facilities is not only correlated to the type of facility but to its location. While positions at urban hospitals are generally filled, there is a significant share of vacant positions at rural hospitals. Primary level facilities display a similar pattern of employment and even more so for the facilities located in rural areas. For primary level facilities in rural areas there are more posts vacant than actually filled, which indicate a significant challenge in outreach of services to rural areas.

1.20 The study obtained data on positions filled but not serving at the facility due to different reasons for absence. 20.7 percent of the total positions filled showed absence from the workplace at the time of the survey. 44.3 percent of this total number of persons absent did not serve in their positions due to reasons like sick leave, in training, on mission, approved absence, away to retrieve their salary as well as unapproved absence or other

reasons. This makes 9.2 percent of the overall workforce being absent from their positions at the time of survey.

1.21 Data was also obtained from facilities on their non-salary inputs, which are either acquired by procuring them with cash contributions or as in-kind contributions Medicines constitute the major share of in-kind contributions for all facilities. Also some major rehabilitation and new investments in hospitals financed from federal and state budgets have contributed to overall resource allocation for hospitals. Other primary facilities rely almost entirely on fees for their non-salary inputs of which medicines are the major input. In some states a major share of state charges for goods and services are for in-kind contributions provided to facilities (Blue Nile with approximately 75 percent). In others, like North Kordofan the state charges to goods and services that reach facilities in the form of in-kind contributions for non-salary inputs are only 12 percent.

1.22 Records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. For instance, tracking of individual contributions for medicines, medical supplies, etc. was not possible. In some cases a facility had records of contributions from a locality but the locality did not have records of having made these contributions to the facility. In other cases facilities had no records of specific in-kind contributions from respective source although they claimed to have received in-kind contributions and could provide an estimate of total contribution. Based on the experiences in this survey there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

Public Expenditure and Service Delivery

1.23 There is significant disparity in outreach and resource intensity per patient, the measure used for service quality in this study (Box 1). At the one end, services in Khartoum are to a larger extent provided through hospitals and health centers. It has the highest health expenditure per capita. With 75 percent of total expenditure executed at facility levels it has higher resource intensity per patient than the other states. At the other end there is North Kordofan with the lowest health per capita spending and 42 percent reaching the facility level.

Box 1: Limitations in measuring service quality in this PETS

The different types of facilities extend inpatient and outpatient services. Survey data was collected on both categories of services. The analysis in Chapter 5 presents 'spending per capita' as an indicator of overall resource availability, the number of patients compared to population to measure 'outreach of services' and 'resources intensity' (i.e. resource per patient) as a proxy to quality of service for different type of facilities. ***This proxy has limitations which do not allow drawing stringent conclusions on the quality of service delivery.*** While data on type of diseases treated as well as stock and consumption of various medical inputs were collected from facilities, the quality of the records varied significantly among the facilities and in many cases no information was obtained. Thus, the extent to which resource intensity is correlated with the availability of medical personnel, drugs, medical consumables and other facility inputs ***could not be used*** as a proxy to further qualify the level of service for different type of facilities; and to measure the extent to which there is a correlation between resource intensity and available inputs. To allow refined measurements of service delivery, this report has several conclusions to strengthen overall systems for monitoring and capturing resource flows, including through appropriate public financial management (PFM) approaches and the installation of a Health Management Information System (HMIS).

1.24 **Survey data also indicates that there is a wide variation in resource intensities between patients located in rural and urban communities for all types of facilities.** This suggests that both outreach and quality of services are more favorable in urban than rural communities. Resource intensity as measured by expenditure per patient shows higher levels in urban areas. However, of facilities servicing rural communities, the resource intensity per patient is higher for health centers than hospitals. This is because several of the states with a major share of their population located in rural communities prioritize health service delivery through health centers which provide both outpatient and inpatient services.

1.25 **Based on this analysis, which has many limitations due to the unavailability of quality defining data, the extent to which public resources reach facility levels impacts on outreach and thereby quality of services. Using the simplified presentation in this chapter, higher outreach service can be reached by increasing allocation of resources to facility level.** An increased share of public resources allocated to facilities will potentially generate significant increase in resource intensities and quality of services for existing facilities. But the extent to which resources actually reach facilities is not only a question of changes in state and locality budget allocations but also the extent to which the state and locality levels ensure that these resources actually reach facility levels. The observations from the survey suggest that there is a significant scope to improve systems for monitoring cash transfers and in-kind contributions intended for facility levels.

1.26 **Those states with facilities, and in particular hospitals, that retain a large share of the user fees show higher resource intensities per patient than other states even in cases where the overall level of spending per patient is the same.**⁴ This may imply that user fees managed at facility levels are more effectively applied at facility level for each SG spent than public resources. For hospitals and to a certain degree, health centers, user fees are used to supplement shortfalls in public spending to fill vacant positions as well as other inputs. For other primary level facilities they are first and foremost as supplemental source of funding for drugs and medical consumables.

Policy discussion

1.27 **There are significant gaps in the delivery of facility inputs from state and locality levels compared to what effectively reaches facility levels. To address this the management and monitoring of inputs provided by state and locality levels to facilities needs to be strengthened as well as the overall management of resources at facility levels.** This call for strengthened public financial management (PFM) capacities at all administrative levels is consistent with previous recommendations in the PER (2007) and the CIFA (2010). In fact, the CIFA developed, together with the authorities, a comprehensive PFM Action Plan; this PETS underlines the urgency to timely address this action plan.

⁴ For instance, South Kordofan, the state where the large majority of facilities can retain fees at their level; there, despite a low per capita spending on health is a relative high outreach of hospital services and even higher resource intensity per patient compared to many of the other states (Expenditure per capita: SDG 14 – Resource intensity: 28; in Blue Nile 20/10, Kassala 6/16, Khartoum 38/36, North Kordofan 2/9, Red Sea 6/7). This can partly be explained by resource intensity being correlated with the extent to which facilities not only collect but also can retain user fees, i.e. user fees as a supplemental source of finance for facilities allow them to employ more staff and procure medical inputs which likely will provide better quality services.

1.28 **Another step to better public financial management could come from the current process of implementing the comprehensive Government Resource Planning (GRP) system.** The currently proposed system is planned to be based on the GFS standard, and being rolled-out within the FMoFNE (to be followed by other federal ministries and agencies). Based on an – recommended to be carried out – independent review of the system’s capabilities, the momentum could be triggered to make an informed decision on whether a full-rollout across both federal and state levels could be envisaged.

1.29 **There is scope and a clear need to improve monitoring of in-kind contributions to monitor resource flows in a more comprehensive manner thereby to ensure that resources reach the frontline service providers and are applied for the intended use.** While the immediate priority of the CIFA PFM Action Plan is to address cash-based financial management, a subsequent need is to look at systematic approaches to capture and manage in-kind/material resource flow. Since the PETS is part of the PFM Action Plan, there is an opportunity to feed back this finding into the CIFA process. This could also be linked to the possible implementation of a Health Management Information System (HMIS).

1.30 **A streamlined allocation and transfer system for facilities through a unified and enforced formula-based allocation system is needed.** This is to minimize the apparent use of discretionary allocations, which are a primary cause of observed disparities in funding levels across states. The present system around the FFAMC is politically charged, applies only to the federal and state level, is based on too many and complicated criteria, and leaves too much space for discretionary allocations.

1.31 **Harmonize the allocation system for the health sector across states and with guidelines for types of facilities. A harmonized system would promote fiscal responsibility throughout the levels.** It would also allow more predictability at decentralized levels and thereby facilitate the basic service delivery responsibility of local authorities.

1.32 **Harmonize and increase transparency of the overall policy for the administration of user fees, which is currently unequal across states.** Not surprisingly, in states where health facilities can retain fees to supplement their spending on the survey provider level, facilities show higher resource intensities. Resource intensity in this study is used as a gauge of service deliver quality, meaning of which is limited due to the insufficient data on supporting factors (see Chapter 5). It is therefore recommended to further the understanding of health fees and service delivery quality. At the same time, a national dialogue should be established, including the federal and state levels, to discuss current practices and suggestions for a harmonized user fee model in Sudan. This would also include issues of transparency of rules on levying mechanisms at the health facility levels and possibilities for strengthening local audit functions. The Bank stands ready to support these efforts.

1.33 **The collection of user fees as a de facto state income, might also be a response to the deprivation of the most lucrative tax incomes over the last decade, which were taken on by the federal level (e.g. agriculture tax and sales tax).** Due to this and to provide for a stable source of income to balance uncertainties around federal transfers, states may have had an incentive to look at user fees in health as alternative. Therefore, any policy change for user fees may need to consider ways to strengthen own revenue mobilization of states away from non-tax sources.

1.34 **User fees in health may have detrimental effect on service access, especially for the poor and vulnerable. But further insights are needed on the overall question on cost**

and benefits of levying fees. The current work of the FMoH and the Bank on the Health Facility and Service Delivery (HFSD) study will be able to inform this discussion; likewise the Bank work on the Poverty Assessment will give further insights.

1.35 **Introduce special incentives for personnel serving rural communities to close the gap between rural and urban facilities in retaining/employing staff.** A wide body of international evidence suggests that a bundle of incentives, which includes professional support alongside various kinds of incentives, including financial ones, is likely to be the most effective approach. Box 6 gives a short overview of approaches used in the past, which is currently being researched by a Bank team based on case studies of Tanzania and Uganda.

1. CHAPTER ONE: INTRODUCTION

1.1 The Sudan referendum on post-CPA arrangements was held during January 9-15, 2011 with results in favor of secession of the South by July 9, 2011. Negotiations between the North and South on post-CPA arrangements started before the referendum and will likely continue until July 9. There are a number of key economic issues to be settled, most importantly the future treatment of oil assets (e.g., ownership, production arrangements with operators, transport of crude to refineries and export points in the North, marketing and sales, etc.). During the CPA period and as per the agreement protocol, the North and South have equally split the rents from oil wells in the South. Oil sector activity and government wealth sharing over the Interim Period have driven strong real GDP growth in the North, and accounts for over 98 percent of public revenues in the South. Thus significant adjustments on oil will have major economic implications for both sides. Other key issues under negotiation include the future treatment of external debt, currency, borders and water rights.

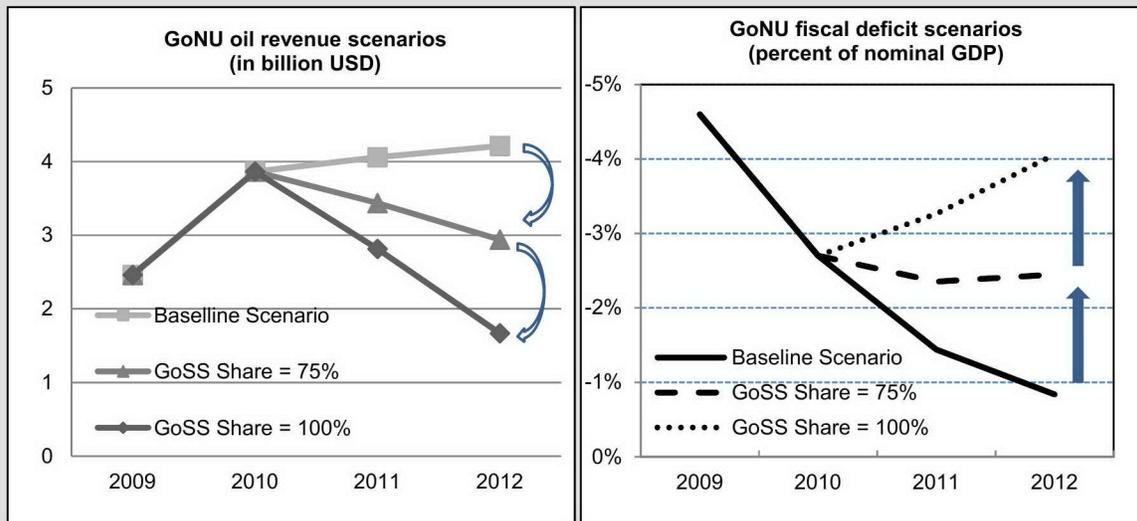
1.2 The secession outcome will put significant strain on economic stability in the North and the economic effects of secession will transmit largely through the fiscal and external accounts. With roughly 75 percent of GoNU oil revenues generated from Southern oil production, there are expected negative fiscal and balance of payments implications of secession that will strain economic stability in the North. As the new arrangements for the oil sector are imminent, fiscal planners are facing the challenge to do more with less and to balance fiscal consolidation against service delivery needs and the broader development agenda of the country. Political uncertainties prior to the referendum had already translated into economic dimensions, largely driven by the potential economic downsides for the North under the secession scenario; this in turn triggered a “wait and see” attitude for some investors. Against the challenges of the political environment, real GDP growth for 2010 is estimated at 4.7 percent, up slightly from 4.5 percent in 2009. But these are significantly lower levels than seen in the years preceding the global financial and economic crisis when growth rates abruptly fell from double digits in 2007 to 6.6 per cent in 2009.

1.3 Significant fiscal adjustment will be necessary and a large part of the burden is expected to fall on the expenditure side. In fact, a fiscal crisis is looming. Estimates of GoNU's oil revenue losses at this stage require a host of assumptions on the current negotiations, but a Bank staff analysis suggests the oil revenue losses will be in the range of 1-2 percent of GDP in 2011 and around 1.6 - 3.2 percent of GDP in 2012 (Box 2). Efforts to boost other sources of revenue may have limited impact in the near term due to the protracted nature of on-going reforms, combined with possibly declining economic activity from the loss of oil sector rents and a weakening multiplier effect throughout the economy.

Box 2: How severe could the fiscal shock possibly be?

Bank staff conducted some work on fiscal scenarios to present an indicative idea on the magnitude of oil revenue shortages and fiscal balance effects in the post-secession period. The work is based on different ranges of oil revenue sharing scenarios. Accordingly, three hypothetical scenarios on GoNU oil revenue shares were simulated. The baseline hypothesis assumes GoNU would continue receiving half the Southern oil revenues as in the current CPA arrangement. Then there are two hypothetical scenarios of revenue losses: (i) GoNU would receive only half the current share (GoSS share = 75%); and (ii) GoSS would take all the southern revenue (GoSS share = 100%). Further, the total expenditure envelope reflects the original budget for 2011, published in November 2010, and it is assumed that budgets are to be frozen in 2012. The work compares the fiscal balances of the baseline and the

hypothetical scenarios to get indicative magnitudes of the fiscal adjustment needed to restore fiscal deficits back to the baseline levels (where there would be no oil revenue losses).



Source: GoNU oil revenues are World Bank staff estimates. Historical data for fiscal deficit to GDP ratios are from the IMF (June 2010). Nominal GDP for 2011 is from the IMF and the 2012 nominal GDP was assumed to grow at the same rate as the 2011 nominal growth rate forecast by the IMF

The simulation outcomes suggest GoNU's revenue losses could be roughly in the range of 1-2 percent of GDP in 2011, equivalent to 7-14 percent of total expenditure of the 2011 original budget. The oil revenue scenarios suggest revenue losses will be in the range of US\$ 0.7-1.3 billion for 2011 and almost double to US\$ 1.3-2.5 billion in 2012 depending upon the GoNU oil revenue share assumptions. Accordingly, fiscal adjustment sizes required to keep fiscal deficits at the baseline levels were estimated to be around 1-2 percent of nominal GDP in 2011 and around 1.6-3.2 percent in 2012.

Source: World Bank: Fiscal Dialogue, Policy Note Series (2011).

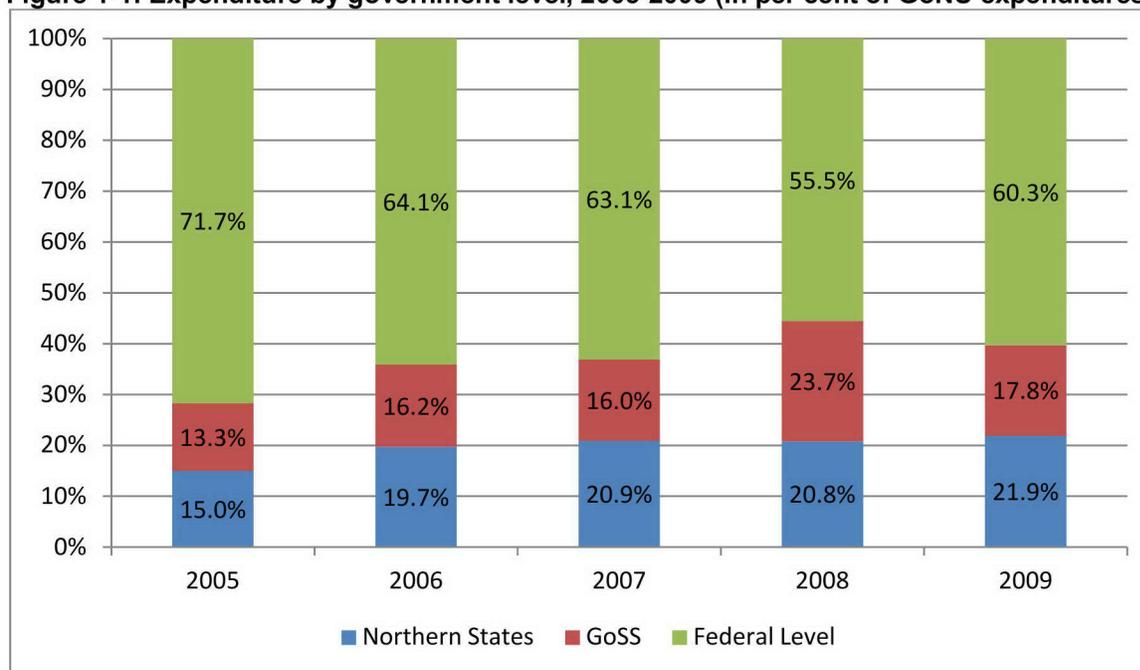
1.4 To increase predictability, active expenditure management is needed on the federal and state levels as preparation and to effectively be able to balance a fiscal shock of this magnitude. A new expenditure management system would ideally be based on a medium-term fiscal outlook and follow strategic directions to mitigate adverse effects on the poor and vulnerable as well as on long-term economic growth through supporting economic diversification efforts with targeted public investment. It will be laid out in Chapter 3 that this can only be achieved through addressing the very specific weakness in the current system i.e. the lack of sufficient overall budget credibility, particularly for development transfers, and the current inability to administer timely and transparent federal transfers to the states.

1.5 Back in 2005, the Comprehensive Peace Agreement (CPA) and the adoption of the Interim National Constitution (INC) led to a new articulation of fiscal federalism. The INC provided the vision for equitable and transparent use of national wealth to sustain peace, implement the CPA and achieve poverty reduction and human development. Key dimensions include equitable treatment of marginalized areas, commitment to fiscal decentralization to allow all levels of government work toward achieving targeted outcomes especially with regards provision of services, and the principles of transparency and accountability. The sharing and allocation of the resources and common wealth of the Sudan is premised that all parts of the country are entitled to development, and revenue sharing shall reflect a commitment to

devolution of powers and decentralization of decision-making in regard to development, service delivery and governance.

1.6 Fiscal decentralization, while key to the vision of the CPA and INC, poses a number of challenges to revenue management. To fulfill service delivery responsibilities, sub-national levels need adequate revenue to conduct expenditure assignments and address regional/local needs. The World Bank together with the Government of Sudan prepared a Public Expenditure Review (PER) in 2006/07. A central focus of the PER was on the role of intergovernmental transfers and fiscal decentralization in the wealth and power sharing arrangements following the 2005 decisions. The PER argued that inadequate and unevenly distributed own-revenues at lower levels of government and unpredictable levels of transfers from the central government posed serious obstacles to the fulfillment of the new vision. Much more, the 2006 Sudan Household Health Survey (SHHS) highlighted the serious disparities across states and regions in Sudan and across genders. To this end, the PER underscored the need to address effective public expenditure management including comprehensive and transparent functional budget reporting, monitoring of actual spending and its outcomes to bolster accountability, costing sector and cross-cutting policies to make budget prioritization more transparent, improved budget credibility, linking development planning to the annual budget preparation process, and generally increasing the use of expenditure analysis in decision making. The authorities recognized many of these issues as priorities and started to implement a series of reforms over the last few years.

Figure 1-1: Expenditure by government level, 2005-2009 (in per cent of GoNU expenditures)



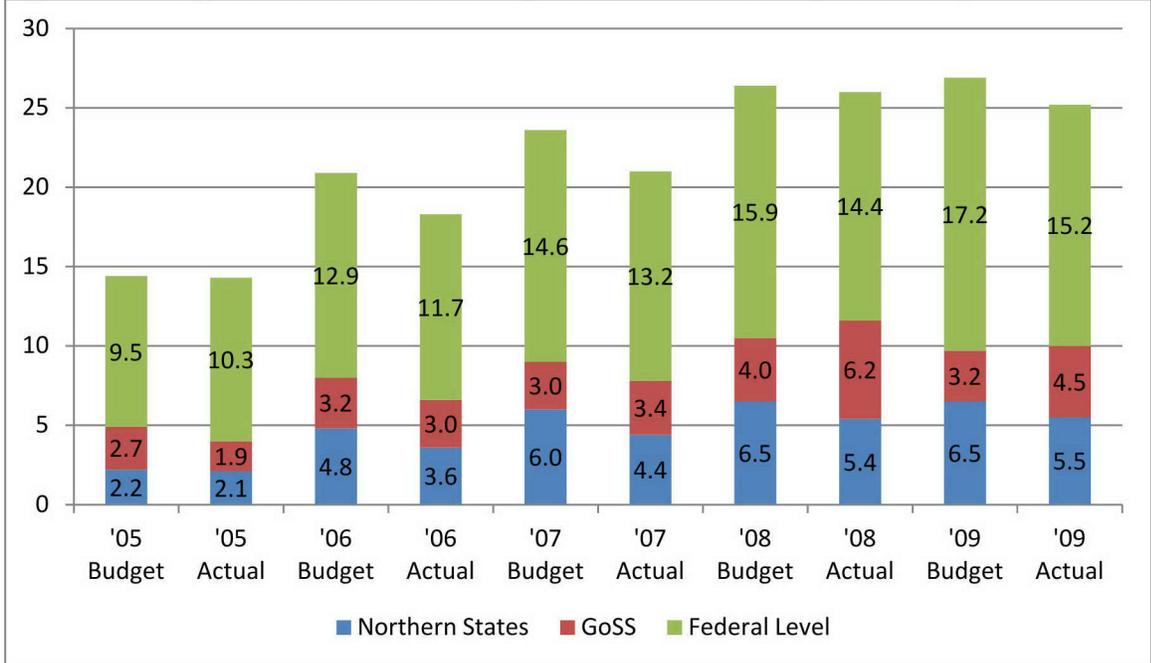
Source: FMoFNE, WB staff estimates.

1.7 Overall GoNU budget allocations in the CPA-period largely reflected the new priorities laid down in the CPA and the INC. Over the five year horizon from 2005 to 2009, budget allocations from GoNU to the Northern States and to the GoSS increased substantially (in per cent of GoNU total expenditure); at the same time federal government budget obligations decreased from over 70 to 60 per cent between (Figure 1-1). While the overall trend of increased transfers and decentralization remained intact during the

financial and economic crisis, some setbacks became visible. In fact, transfers to GoSS decreased sharply from 24 per cent of total GoNU spending in 2008 to 18 per cent in the context of shrinking oil revenue as a result of world oil prices decline. At the same time, transfers to the Northern States increased slightly from 21 per cent of total GoNU spending in 2008 to around 22 per cent in 2009, still the highest share since the CPA.

1.8 Likewise, absolute budget trends since 2005 were consistent with the devolving responsibility for basic service delivery to sub-national governments. Total expenditures of Northern States increased by both budgeted and actual levels. In fact, actual expenditures of Northern States rose two and a half fold over five years from SDG 2.1bn in 2005 to SDG 5.5bn in 2009 (Figure 1-2). But increased resource flows to sub-national levels increase concerns for effective decentralization and resource use at the sub-national level that is subject to improvements in public financial management. Figure 1-2 also shows that budget credibility, as defined by the degree to which actual expenditures deviate from budgeted levels, has been and continues to be an issue of concern. The execution rate of transfers to Northern States was around 84 per cent in 2009 (Budgeted: SDG 6.5bn; and actual: 5.5bn). The average execution rate of transfers for the period 2005-2009 reached 82 percent.

Figure 1-2: Budgeted and actual GoNU expenditures, 2005-2009 (billion SDG)

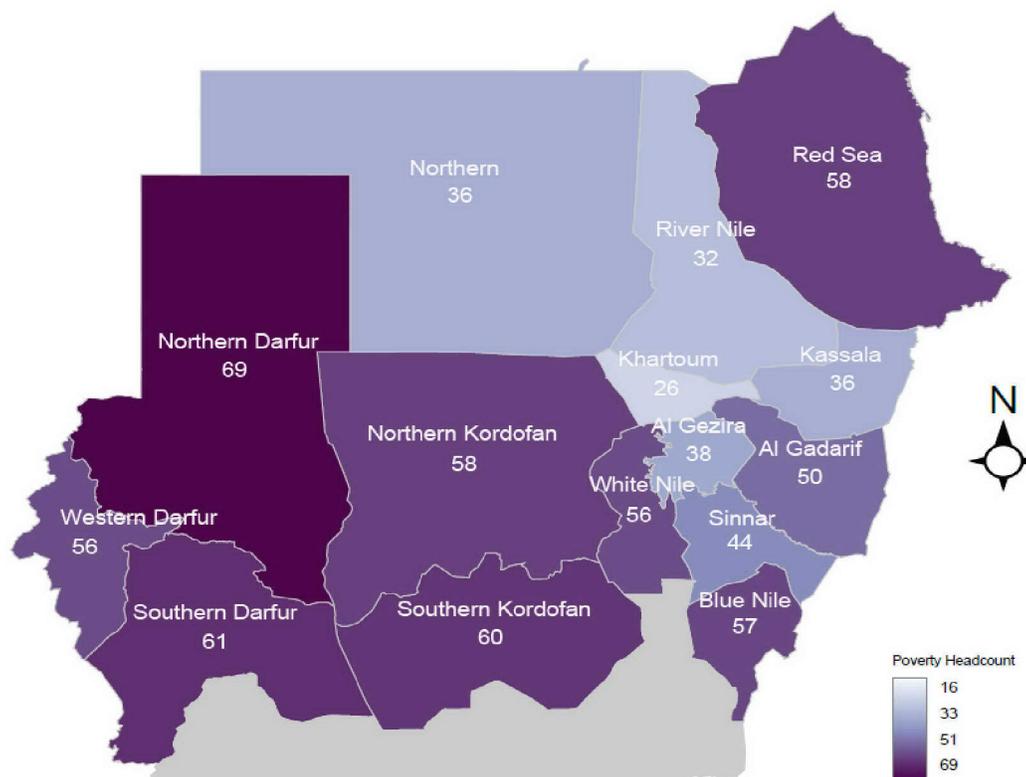


Source: MoFNE, WB staff estimates.

1.9 According to a recent study on poverty estimates in Northern Sudan, commissioned by the Government of Sudan, the incidence of poverty in Northern States is 46.5 per cent. This was calculated based on a minimum consumption aggregate associated with poverty and divided into food and non-food consumption (Castro 2010). In other words, almost 50 per cent of the population cannot afford to purchase the minimum consumption bundle. The study also confirmed that the incidence of poverty is significantly higher in rural areas than in urban areas of Northern Sudan with 57.6 to 26.5 per cent. The trends in this government study are confirmed by the World Bank’s work on poverty profiles, which are based on the same data set (Figure 1-3). The poverty profiles are a first step to a full-fledged poverty assessment currently undertaken by the Bank. The poverty profiles, can serve

as an important building block in the authorities' recent momentum to embark on a Poverty Reduction Strategy (PRS). Likewise, this PETS can serve as an important input into the PRS process.

Figure 1-3: Poverty headcount by state (percentage of population with consumption below the poverty line), Northern States



Source: World Bank, Sudan Northern States Poverty Profile (2011).

Notes: The boundaries shown do not imply any judgment on the part of the World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

1.10 Despite the alarming results on the incidence of poverty, GoNU's budgeted allocations to pro-poor spending for 2009 were much lower in the final budget than in the previous years; in fact, they had been at the lowest level since the CPA. In 2009, this reflected the impact of a reduced budget envelope as a result of the dropping oil prices in light of the global crisis. And it also showed the weakness of a system where expenditures are driven mainly by the levels of revenues and do not follow a planned budget process based on clearly identified priorities. As a result, GoNU's pro-poor expenditure was cut by 2 percentage points during the 2009 budget planning process from 7 per cent in 2008 to then 5 per cent of GDP in 2009. Given the new reality of the post-referendum world, however, more pressure will arise, which may further strain the pro-poor direction of the government agenda. While many efforts are under way to keep up the momentum and direction to continue service to the poor and vulnerable, most notably the ongoing government work to establish a Poverty Reduction Strategy (PRS) as well as the World Bank's advice on the fiscal adjustment in the post-CPA period, the need for doing more with less through increased efficiency in government systems is imperative. This PETS aims to provide some lessons on how to reach such a more efficient path of government finance.

1.11 The PETS study is organized as follows: **CHAPTER 2** presents the objectives of the study, and the survey methodology and sampling size. It expands on the set of instruments and the role of these instruments to achieve the objectives. The section gives details on the enumeration method chosen and important issues encountered in administering the questionnaires. **CHAPTER 3** focuses on the specific developments of budget data (functional classification) in the Northern States. The chapter sheds some light on revenues and expenditure in Northern States and also zooms into the specific responsibilities transferred to the states. Towards the end, the chapter addresses the budgets specifically of the six states that have been sampled for the study (in a purposive sample).

1.12 **CHAPTER 4** is the heart of the study and is based on the flow of funds analysis underlying the PET survey. It starts out with addressing the question on “who” finances the health sector. With this it gives a good account of the decentralized nature of health services, which is a prerequisite to actually track public spending through the system. The chapter aims at estimating how much of those public resources effectively reach the providers. This is done through a two-track approach: First stands the identification of public resources allocated to the facilities level; and second, comes the comparison to facility level records of funding received from higher levels. Another focus of tracking is on the wage bill, which includes staff absenteeism, goods and services, as well as the impact of user fees to supplement facility resource inputs.

1.13 **CHAPTER 5** explores the interconnections between public expenditure and service delivery in Sudan and tries to assess the effectiveness of public spending in contributing to the quality of health services. The number of inpatients and outpatients is used as the unit of account for service delivery and resource intensity per unit of account as a “service quality indicator” (i.e. higher resource intensity would indicate better service quality). The concept is supplemented by selected physical indicators which show the endowment of facilities. The issue of fees and how they are used – retained at the facility level or transferred to higher level authorities – is addressed again specifically in light of the potential impact on service delivery. **CHAPTER 6** concludes with a highlight of the findings and possible policy options. **ANNEX 1** provides six short extracts of the main findings and conclusions for each state as additional case studies.

2. CHAPTER TWO: RATIONALE, OBJECTIVES AND SURVEY METHODOLOGY

a. Rationale and objectives

2.1 **Decentralization is likely to continue to be a guiding theme for fiscal affairs in the North of Sudan in the post-referendum period. At the same time, with the imminent and probably significant loss of oil revenues, expenditure components across all levels will come under increased scrutiny if not outright cuts.** This fiscal tightening will not leave state transfers untouched, which are the biggest item in the federal budget as well as the underlying force to drive fiscal decentralization and the devolving of service delivery responsibilities to sub-national levels. As a result, the Government of Sudan is facing the crucial challenge to increase the efficiency in spending to allow doing more with less, i.e. to increase attention to poverty alleviation and to consolidate its fiscal situation.

2.2 **The magnitude of the adjustment needed in Sudan may be unprecedented, but the challenge for increasing efficiency in government spending has been studied for many years.** And indeed, studies have shown only a weak relationship between public spending as recorded in a government's budget and outcomes (see among others Ablo and Reinikka 1998; Filmer, and coauthors 1999 & 2000; Gauthier and Wane 2009).⁵ Given this background, the Government of Sudan, driven by the Federal Ministry of Finance and National Economy (FMOFNE) has therefore decided to undertake this Public Expenditure Tracking Survey (PETS) with the assistance of the World Bank.

2.3 **The lack of a strong relationship between public resources and outcome is especially critical in social sectors, such as education and health, and human development outcomes.** There is a significant literature that looked at the multiple mechanisms through which budget allocations process may shape the relationship between spending and welfare outcomes.⁶ Key findings include: The existence of leakage in the system whereby providers do not fully received the public resources the budget entitles them to. And even if all public funds reach providers, those providers may inefficiently use their resources and thereby jeopardize the intended outcomes and the reduction of poverty. At the same time, intended outcomes may also not be achieved if investments are made on the wrong priorities. There could be other factors as well including weak budgetary practices and low implementation capacity. All these findings underscore the importance to understand the process and factors by which government funds are transformed into outcomes (Amin, Das and Goldstein, 2008). These factors include the functioning and failure of markets, the composition of spending (e.g. tertiary versus primary education or health), corruption, and the effectiveness of service delivery.

2.4 **New tools known as Public Expenditure Tracking Surveys (PETS) or Quantitative Service Delivery Surveys (QSDS) have been developed to assess the efficiency of public**

5 For example, see the following studies: Ablo, E. and R. Reinikka (1998) "Do Budgets really Matter? Evidence from Public Spending on Education and Health in Uganda" Policy Research Working Paper 1926, The World Bank, Washington D.C.; Filmer, D., and L. H. Pritchett (1999) "The impact of Public Spending on Health: Does Money Matter?" *Social Science and Medecine*, 58: 247-258; Filmer, D., J. S. Hammer, and L. H. Pritchett (2000) "Weak Links in the Chain: A Diagnosis of Health Policy in Poor Countries", *World Bank Research Observer* 15(2): 199-224; Gauthier, B. and W. Wane (2009) "Leakage of Public Resources in the Health Sector: An Empirical Investigation of Chad." *Journal of African Economies*, vol. 18(1): 52-83.

6 See Lewis (2006), Wane (2008), and Filmer, Hammer and Pritchett (2000).

spending and the quality and quantity of services to help identify the weak links between public spending and outcomes. PETS can be used for the analysis of public expenditure management reforms, reforms to improve the efficiency of public expenditure, cross-cutting public sector reforms, anti-corruption, and service delivery reforms. PETS track the flow of resources through the various layers of government bureaucracy, down to the service facilities in order to determine how much of the originally allocated resources reach each level. PETS can help identify the location and extent of impediments to resource flows (financial, staff, equipment). It evaluates the mechanisms and incentives responsible for public expenditure leakages, capture and deployment impediments. PETS focus on service provider behavior, incentives, and relationships between providers, policy-makers and users.

2.5 The Government of Sudan and the World Bank agreed that this Sudan PETS would focus on the health sector, in a case study of its public financial system. The ultimate aim is to take actions to ensure more efficient spending of Government resources. The health sector was chosen as a suitable starting point due to a variety of reasons: First, Sudan has ranked consistently low on the UN's Human Development Report, especially in the health indicators (Sudan ranks 154 out of 169 countries in UNDP's 2010 Human Development Index), and therefore understanding the expenditure problems confronting the health sector and addressing them would bring greater benefits to the country than perhaps any other sector. Second, political commitments to the findings in this report are expected to be strong giving the leadership of the Ministry of Health. Third, given that health sector is the second most popular sector on which PETS have been applied (first being the education sector), there are other experiences available in search of robust conclusions. Finally, this PETS was carried out in cooperation with the study on health sector financing, partly funded by the MDTF-N, thereby for some parts allowing the usage of joint surveys.

Table 2-1: Sudan's Children (0-59 months): Immunization, incidence, probability of seeking care

	Preventive Care			Curative Care			
	Not immunized, percent			Fever, percent		ARI, percent	
	BCG	DPT1	Measles	Inciden.	No Care	Inciden.	No Care
Northern	17.0	12.9	26.6	6.8	37.1	12.8	20.9
River Nile	11.6	11.1	24.2	13.7	8.0	12.9	42.1
Red Sea	31.5	30.6	46.2	3.8	25.6	9.1	38.6
Kassala	16.7	17.1	32.1	10.8	14.0	11.1	35.5
Gadarif	17.2	18.3	31.5	10.7	54.1	14.0	40.2
Khartoum	11.6	10.4	26.5	7.6	14.9	14.3	17.5
Gezira	11.5	10.2	23.1	17.3	9.5	13.9	27.5
Sinnar	13.9	12.5	27.2	12.4	22.7	21.3	44.6
Blue Nile	16.8	18.4	37.1	16.4	38.9	19.5	49.9
White Nile	23.6	18.4	33.7	14.6	11.5	11.4	33.6
N. Kordofan	29.1	27.3	38.7	12.8	27.2	19.6	46.9
S. Kordofan	29.3	33.0	43.7	8.8	24.4	12.3	50.8
N. Darfur	18.2	20.6	30.0	4.0	18.9	15.5	34.7
W. Darfur	38.7	35.3	45.5	11.3	53.3	19.2	46.2
S. Darfur	37.3	38.1	49.1	14.6	36.1	39.1	57.9
Northern Sudan	21.0	20.7	34.1	11.5	26.6	18.1	42.0

Source: WB staff own calculations using data of the SHHS 2006.

2.6 Effectively translating public spending on health, which is relative high compared to other sectors such as education, into improved outcomes is crucial for Sudan given the general health status of the people and the importance of health shocks in people's

lives. And indeed, the Sudan Household Health Survey (SHHS) in 2006 confirmed the prominent role of those shocks in people's lives. The top three concerns identified in the SHHS 2006 were health shocks (30 per cent), insecurity or violence (18.9 per cent) and loss or lack of employment (13.7 per cent).⁷ But despite the importance of health shocks and thus the need for health care, utilization rates in Sudan are very low (Table 2-1). In fact, 26.6 per cent of children who had fever and 42.2 per cent who caught an acute respiratory infection (ARI) did not visit a health facility. Likewise, over two thirds of infants did not get Polio vaccinations. The SHHS 2006 also shows that only 5.9 per cent of deliveries are assisted by a medical doctor and a mere 19.4 per cent are performed in a health facility.⁸ Table 2-1 shows further that one-fifth of children did not receive BCG or DPT1 and more than one out of three children was not immunized against measles.

2.7 There are wide state-level variations in the health indicators. For instance, only 8 per cent of River Nile's children with fever who did not seek care against 54.1 per cent for children in the state of Gadarif not seeking the same care. Likewise, severe patterns of disparities across states also exist when it comes to children's nutritional status. Stunting is very pervasive in Sudan with rates of around 50 per cent and even more common in some states (Table 2-2). In that environment, the state of Khartoum has the lowest level of stunting across all states, but still reaches 37.2 per cent. The highest stunting outcome is registered in the state of Kassala, with 68.5 per cent of the children affected. Wasting and underweight are also pervasive health problems. There is wide scope for improvements to address the dismal health outcomes cited above.

Table 2-2: Anthropometric measures of Sudan's children

	Underweight, percent	Stunted, percent	Wasted, percent
Northern	41.6	38.7	26.3
River Nile	34.5	40.0	15.2
Red Sea	43.3	45.2	19.8
Kassala	53.9	68.5	23.7
Gadarif	42.5	55.2	11.4
Khartoum	24.5	37.2	13.1
Gezira	28.5	41.3	9.7
Sinnar	38.0	50.4	14.0
Blue Nile	46.5	59.8	14.5
White Nile	40.2	48.7	15.3
N. Kordofan	42.9	51.0	15.5
S. Kordofan	35.3	43.0	14.9
N. Darfur	55.0	48.6	28.5
W. Darfur	51.3	44.8	23.2
S. Darfur	41.6	47.3	11.4

Source: WB staff own calculations using data of the SHHS 2006.

2.8 Although household level variables have important impact on the health status of the population, especially children, the quality of service delivery usually plays a non-negligible role. And public resources can positively influence the quality of services if they actually reach the providers and are used efficiently. It is therefore important to ascertain the level of public spending in the health sector and also make sure that public resources reach

⁷ These are followed by drought (9.1 per cent), inflation (7.8 per cent), crop disease (7.5 per cent), death in household (7 per cent) and other shocks.

⁸ These are average outcomes for all Sudanese states. Northern states would perform better but still outcomes would remain low even for SSA standards.

their intended beneficiaries and are efficiently used. The Sudan PETS is well placed to look at those issues and aims to improve the efficiency of public expenditures. It is important to note, however, that any PETS can only be as strong as the government ownership allows to actually trigger policy change. Past examples have shown that government ownership paired with transparent measures to overcome the deficiencies identified are among the most important factors to successfully improve the allocation of resources to priority sectors (Gauthier 2006).

2.9 The Health Facility and Service Delivery (HFSD) study is carried out by the FMOH with the support of the World Bank via the MDTF-N. The main objective of the HFSD is to provide information that would facilitate decision-making via three channels. First, describe recent trends (2006-8) in state and locality budget and expenditures by locality, type of expenditure (chapter and functional classification) and type of health facility (level of service). Second, assess accessibility, affordability and technical quality aspects as well as utilization of services by locality and type of health facility. Third, evaluate the association between resources and results by locality (and to the extent possible by level and location (rural/urban) of facility).

2.10 The Sudan PETS shares most of these objectives although it more narrowly focuses on a single fiscal year. In Sudan, information is scant about how public expenditures on health flow through the budget system – from federal to state to locality levels – and are translated into services. This is especially true for lower levels of government (e.g. state and locality). Anecdotal evidence suggests that once the federal government releases resources to the states, there is neither follow up nor feedback on how those resources are used. The same seemingly holds true from state to locality, with the aggravating factor that information on transfers from state to localities is even less readily available.

2.11 The Sudan PETS aims to provide a comprehensive overview of the amount of resources that are spent within the health system, based on case studies of 6 out of the 15 Northern States: Blue Nile, Kassala, Khartoum, North Kordofan, South Kordofan, and Red Sea (herein referred to as the “PETS States”). The PETS attempts to account not only for federal block grants, but also local governments own resources that are funneled into the health sector, and the extent of private financing through user fees, as well as the footprint of donors. The specific objectives of this PETS are to generate new knowledge on how resources flow through the administrative and budgetary system; identify what the magnitudes of those resources are; estimate how much funding actually arrives at the provider level; find out how those resources are combined with other inputs at the facility level to generate health outcomes; and assess the relationship between public funding and health service delivery in Sudan.

b. Survey methodology

2.12 The methodology of the PETS is straightforward and has been used in several countries, though its design is country specific and tailored to the country’s system. The Sudan PETS methodology and design follows established practices previously applied in many Bank client countries that composes of two main survey instruments intended to collect information at the different government levels involved in service delivery: (i) the tracking of public spending in the system and (ii) the facility survey. The two components are complementary and use different strategies. It is mainly the second component that is integrated with the HFSD work due to the overlap of the two studies, especially the facility survey component. The PETS and HFSD have established base line indicators for monitoring the use of resources in the health sector.

2.13 The first component is the institution survey, by which all the administrative nodes through which public resources for health transit – including but not limited to federal, state and locality governments – are identified. As a prerequisite for tracking expenditure, a comprehensive chart of the flow of funds is designed in chapter five to determine how the health hierarchy is structured and how government's resources are allocated and disseminated. The chart allows us to identify all the administrative nodes through which public resources for health sector transit including three main layers of public resource flows within the Sudanese health sector (federal, state and locality).

2.14 A questionnaire is administered at each level in the system, based on the administrative nodes identified through the chart of flow of funds, i.e. state level, locality level and facility level. This triangulation of the data allows determining how well resources disbursed and match with those received. Three questionnaires were designed: State Ministry of Finance (SMoF) and State Ministry of Health (SMoH) questionnaire; locality questionnaire; and facility questionnaire. Questionnaires are designed in a way to develop a precise picture of flow of funds and public service delivery by using the data triangulation technique where many sources are consulted about (an) identical question(s). It is, however, noteworthy that in a system such as the Sudanese one, which provides discretionary power for resource allocation with the use block grants, it may not be feasible to determine how much has been earmarked specifically for the health sector. In this case the PETS simply assesses the expenditures on the health sector by each of the three levels.

2.15 Each questionnaire applies the same set of core sections around three broad issues that provide a comprehensive picture of the functioning of the health sector and the system that support it. These elements help to ensure that data collected at one level administrative in the system can be cross-checked against the same information from other administrative levels:

- i) *Identification.* The first two sections of the institution survey questionnaires collect some basic information about the states and localities that are used to organize the data set. They include the population of the state/locality, the area covered by the state/locality, distance from the state capital to Khartoum, and number of localities existed in the state.
- ii) *Budget preparation process.* Section three collects a profile of the budget preparation process at the state and locality levels. This allows an understanding of who makes the final decision in the allocations for each line-item of the state's/locality's health budget. The section also provides knowledge on whether each locality has its own budget, and if so, who prepares this budget. In addition, it identifies whether there is the possibility to reallocate funds across line items after the health budget was approved, and if so, who has the authority to do so. Data collected in this section also sheds light on the question about who has authority to fire/hire health staff of individual hospitals (specialized and rural) and lower level health facilities (dispensaries, PHC units, etc.) facilities.
- iii) *Budget execution process: revenue and expenditure.* The last three sections (four, five and six) review the state/locality budgets execution. This includes: The state's/locality's overall budget trend; the overall revenues and also own revenue generated from the health sector in form of facility level fees; the fiscal dependence on transfers from higher administrative levels; and the expenditure composition. It also provides answers on how much financial or in-kind support exists from agencies or organizations other than the federal government (i.e. FMoFNE and FMoH).

2.16 The crucial component of the Sudan PETS is the facility survey, which not only tracks the effective amount of public resources each health facility received, but also provides data on broader measures of service delivery and how efficiently the facility

uses whatever amount of public resources it receives.⁹ The facility survey is based on a multi-topic questionnaire covering basic characteristics, human resources, services offered, financing structure; institutional and governance settings. The facility survey applies a set of six core elements, which is similar to facility questionnaires also applied in other PETS:

- i) *Characteristics of the facility.* Key general information of the facility, including size (e.g. number of beds), ownership, years of operation, operating days and hours, catchment population, competition from other service providers, access to infrastructure, utilities access and other services, range of services provided, distance to the next nearest other facility (and type of that facility).
- ii) *Inputs.* Personnel working at the facility (number, gender, distribution by type and occupation, salary paid, reason for absence), and the availability of medicines and drugs.
- iii) *Financing (sources and smoothness in flow of funds).* Information on finance amounts and type (in-kind versus financial support) that the facility received from user-fee charges, the local, state or federal governments, donors and NGOs organizations.
- iv) *Outputs (to calculate cost efficiency).* Examples of measurable outputs include numbers of inpatient and outpatients treated.
- v) *Quality.* Special efforts were made to capture the quality as a multidimensional product by collecting information on different aspects, including staff behavior and composition, availability of inputs/services such as access to infrastructure, utilities and laboratory testing.
- vi) *Institutional mechanisms and accountability.* Supervision and monitoring by federal, state, or local government institutions.

Sample and sampling strategy

2.17 The Sudan PETS sample is representative at the state level to ensure the highest possible credibility and usefulness of the survey's results. Sample design was carried out in a multistage process: First, six states were chosen from the 15 states in Northern Sudan, and include Khartoum, Blue Nile, Kassala, North and South Kordofan, and Red Sea. Based on the level of infrastructure development of the states and the income and welfare levels of the population, the sample covers three depressed, two average and one better off states. 51 localities were included out of 61 localities in these 6 States followed by a random selection of facilities within each selected locality. As the sample frame in Table 2-3 shows, there are 15 States, 135 localities, and 4,770 health facilities that offer health care services (primary and otherwise). Because public health facilities are the primary, if not always exclusive, recipient of public resources, the private facilities are dropped from the frame. This leaves a final sample of 4,650 health facilities.

2.18 The sample is focused primarily on public non-military health expenditure but the study recognizes the most likely substantial contribution of military facilities to health expenditure. According to the government, military health expenditures are extended to those individuals who joined the forces and their relatives as well as those in need for rare and specialized services otherwise not available. Expenditures by national forces are of two

⁹ The survey and hence the study did neither collect nor assess any delays of resource availability at the facility level and/or delays in transfers of resources from the federal to the state level. A follow-up survey study may be able to provide those insights by specifically focusing on payment and transfer processing times. Such a study may serve as additional explanation to variations between states observed in this PETS; it may also explain the issues identified in budget execution (discussion around Figure 3-4 below), which is often in part the result of delays in budget releases and slow processing of requests.

categories: Development expenditure as for example witnessed by the establishment of hospitals in the capital and in other states of Sudan; and current expenditure for instance in support of the running costs of hospitals and facilities. While these expenditures can be considered to be public expenditure on health, they are excluded from this study due to the difficulty of assessing security-related expenditure in general and the rather limited outreach of the health military, which are still mainly associated with membership to the army.

Table 2-3: Northern Sudan's sample frame of health facilities

	Localities*	Dispensary	Dressing Point	Health Center	Hospital	PHC Unit	Private/ Other	All
Al-Gazeera	7	253	165	232	43	21	1	715
Blue Nile **	6 (6)	30	26	36	16	95	0	203
Gadarif	10	94	85	50	20	29	8	286
Kassala **	11 (11)	138	8	86	23	53	17	325
Khartoum **	7 (7)	137	0	370	59	44	70	680
N. Darfur	10	39	0	45	10	54	0	148
N. Kordofan **	14 (9)	150	54	72	29	145	1	451
Northern State	7	114	25	92	27	0	2	260
Red Sea **	10 (10)	29	33	55	23	74	0	214
River Nile	6	34	23	197	31	17	1	303
Sinnar	7	105	37	49	20	2	6	219
S. Darfur	12	45	14	28	16	103	2	208
S. Kordofan **	13 (8)	14	9	103	13	199	5	343
W. Darfur	7	13	2	11	5	23	2	56
White Nile	8	109	27	108	29	81	5	359
Northern Sudan	135	1,304	508	1,534	364	940	120	4,770

Source: Federal Ministry of Health.

Notes: * Figure in brackets indicates number of localities in actual sample, totaling 51.

** Indicates a PETS State

The number of facilities reported in this table for North Kordofan is 451, which is significantly lower than the 556 facilities in this state as reported by a study on the financing of the health sector in North Kordofan (Background paper to PER (2007)).

2.19 **The second stage involved the selection of health service delivery facilities. From the locality list of health facilities provided, 69 health facilities were randomly sampled in each state, making a total number of 414 covered health facilities.**¹⁰ Facility staff members were also sampled randomly, especially when number of staff members exceeded 30. The same procedure was applied for the selection of health facilities, including dispensary, dressing point, health center, hospital, and rural hospital. It could have been argued to focus the sample solely on primary care centers in an attempt to maintain a fairly homogenous group of providers. In such an approach, hospitals would have been dropped from the sample. The study team decided against this practice and included samples of all types of facilities in the survey to account for the sizeable amount of resources devoted to hospitals.

¹⁰ Interviews could not always be conducted successfully in all 414 sampled facilities. This had a variety of reasons such as the repeated absence of interview partners or the lack of records. Due to this, the total sample size decreased to 371 facilities in the course of the enumeration.

Survey implementation and data collection

2.20 **A training workshop was conducted June 21-23, 2010 on the PETS questionnaires administered on all three relevant levels, i.e. state, locality and facility levels.** The main objectives involved acquainting enumerators and supervisors with the instruments and techniques used in data collection. The last day was devoted to ensure that the enumerators have access to a survey manual detailing questions' objectives and interpretation. Questionnaires were revised following the training to account for issues raised in a view to enhance practicability of the actual administration at each level.

2.21 **All survey instruments were initially tested through a full field pilot phase in White Nile State over three days from June 27-29, 2010.** This served as a means to test the practicability of the chosen instruments as well as to assess the quality and consistency of data, one could expect if administered across all PETS States. Particular attention was placed on the administration of fiscal data (financial and in-kind), which required tailored replies focusing on the health sector in interviews; the main concern was to increase the likelihood of obtaining good quality survey information. After the testing, a final revision of all survey instruments was carried out to ensure lessons learned from the pilot phase.

2.22 **The actual enumeration took place July 4-26, 2010, and involved 80 enumerators who administered 487 questionnaires to a total of 6 states, 51 localities and 414 health facilities.** While data collection went generally smoothly and delivered sufficient inputs for a meaningful analysis, several issues were encountered in the process:

- i) *Fragmented facilities.* This appeared as a critical physical constraint for enumerators within localities.
- ii) *Repeated unavailability of interview partners.* As a consequence the actual sample of facilities with usable data entries is 371 rather than the 414 originally envisaged.
- iii) *Lack of disaggregated data at locality level.* Frequently cited reasons for this problem included the inexistence of systematic filing procedures and the fact that data is primarily recorded on paper rather than in more efficient electronic data processing systems (computers). Different budget reporting formats across states added to the problem; for instance, several states use the conventional economic budget classification system, while others moved on to modern GFS budget classification.
- iv) *Lack of disaggregated data at facility level.* This referred mainly to missing information in the personnel roster (e.g. employees' distribution by type/occupation and salary/incentive per employee) and in the inability to correctly assess material (in-kind) support. For instance, there were cases where facilities receive and re-distribute slaughtered sheep during Hajj season.
- v) *Data reliability and quality control/verification during collection.* For instance, the team assumed that population data enumerated were based on official statistics. However, when checking SMoF and SMoH data it became clear that sometimes responses did not reveal same results for same states. To add on, in some cases, data enumerated deviated substantially from the population data in the Sudan Census 2008 data. In such cases, the team has used census data rather than what was provided in the survey.

Data entry and cleaning

2.23 **A team of the Sudan Central Bureau of Statistics (CBS) participated in the training of enumerators and the piloting of the questionnaires in White Nile State. Consequently, CBS was chosen to process the data entry and data cleaning.** CBS has performed various tasks, including the provision of technical support in the actual enumeration such as strategic

planning of data collection, and performed data entry, editing and initial tabulation. Based on this work the team performed further refinements of the data such as the introduction of census population data or the usage of final accounts data for the aggregation/projection of results to Northern States (see Box 3).

Box 3: Data accuracy: How many health facilities are there in Northern Sudan?

The sample of facilities selected was originally based on data from FMoH (3rd table below). Of the 414 facilities randomly selected, 371 provided data that was included in the analysis. But survey results show that the sample frame provided by the FMoH substantially deviates from the information given by the localities and state ministries. In fact, many unanswered questions and “NA” replies in the SMOH table (2nd table below) indicate that even at the State Ministry of Health level there is lack of an accurate picture of the number of health facilities that operate. The fundamental issue is that inaccuracies and inconsistencies revealed in such basic data hint to more quality issues in data at large. And in fact, the PETS shows that some sampled facilities did not provide information on all questions. And often, figures deviate from the figures provided by FMoH. This indicates that for sophisticated data such as financial information, there is an urgent need for all levels of government to pay due attention to data quality; this can only be efficiently done in a sound Public Financial Management (PFM) system.

1. Locality data

State	Hospitals	Health Centers	Dispensaries	Primary Health Centers (PHC)	Dressing points	Other	Total
Red Sea	14	51	81	78	46	0	270
Kassala	19	114	15	154	0	0	302
Khartoum	0	28	38	0	0	0	66
Blue Nile North	14	44	17	12	32	127	246
Kordofan South	22	91	112	116	145	6	492
Kordofan	15	31	43	128	21	15	253
	84	359	306	488	244	148	1,629

2. SMOH data

State	Hospitals	Health Centers	Dispensaries	Primary Health Centers (PHC)	Dressing points	Other	Total
Red Sea	17	19	47	44	33	0	160
Kassala	11	NA	207	108	0	0	326
Khartoum	28	NA	NA	159	166	0	353
Blue Nile North	16	NA	NA	44	0	199	259
Kordofan South	22	NA	NA	NA	NA	0	22
Kordofan	19	6	393	49	6	1	474
	113	25	647	404	205	200	1,594

3. FMoH data

State	Hospitals	Health Centers	Dispensaries	Primary Health Centers (PHC)	Dressing points	Other	Total
Red Sea	23	55	29	74	33	0	214
Kassala	23	86	138	53	8	17	325
Khartoum	59	370	137	44	0	70	680
Blue Nile North	16	36	30	95	26	0	203
Kordofan South	29	72	150	145	54	1	451
Kordofan	13	103	14	199	9	5	343
	163	722	498	610	130	93	2,216

3. CHAPTER THREE: THE EVOLUTION OF NORTHERN STATES BUDGETS

3.1 **Sudan's Interim National Constitution (INC) and the Comprehensive Peace Agreement (CPA) of 2005 provide for the commitment to fiscal decentralization to empower sub-national governments to more effectively align the use of resources with the need to address wide regional disparities and trace the root causes of conflict.**¹¹ This vision of fiscal decentralization has provided the states with the opportunity to assume the role of the primary source for basic service provision and led to substantial increases of transfers from the federal to the state levels (see also discussion around Tables 1-1 and 1-2 above). As a result, both states and localities have indeed taken over additional responsibilities from the federal government, particularly vis-à-vis publicly funded pro-poor activities such as in the health, education, and water sectors. Given these newly assumed roles of policy-making and economic development responsibilities, there is no other alternative than to furthering fiscal decentralization for effectively delivering public service and broader development outcomes.

3.2 **Fiscal federalism poses a number of serious challenges to public finance management at lower levels of government, a diagnosis that goes back to the PER (2007) and the CIFA (2010).** The increased allocation of resources to Northern States underscores the critical importance of addressing deficiencies in public financial management at all levels of government. As a fundamental prerequisite for effective decentralization there is need for adequate public financial management systems in the Northern States supported by appropriate infrastructure and governance practices. It is the primary objective of this chapter to highlight some of the key developments and challenges that the Northern States face in budget management. This includes a review of the revenue and expenditure performance in Northern States; special emphasis is on developments in the health sector and the six PETS States sampled for this study.¹²

a. Northern States: Revenue trends and composition

Overall trend

3.3 **Total revenue in Sudan's Northern States can be classified into the two major categories: transfers from the federal government and own revenue.**¹³ Trend analysis of

¹¹ "Resources and common wealth of the Sudan shall be shared equitably to enable each level of government to discharge its legal and constitutional responsibilities and duties and to ensure that the quality of life, dignity and living conditions of all citizens are promoted without discrimination on grounds of gender, race, religion, political affiliation, ethnicity, language or region." (*Excerpt from INC Article 185*).

¹² The evidence presented in this chapter is based on data drawn from the Northern States Final Accounts Reports. Although not enshrined in the Interim National Constitution (INC), all Northern States submit annual final accounts reports to the Federal Ministry of Finance & National Economy. These reports include final accounts for all revenue and expenditure (cash based) that were set forth in the fiscal year in accordance with accredited accounting procedures, standards and fiscal accountability. By contrast, each state has its own Actual Performance Report, which include all revenue and expenditure (cash and non-cash based) that were set forth in that fiscal year. These reports would only be accessed at the state level. Revenue and expenditure figures reported in the Actual Performance Report are sometimes larger than those reported in the Final Accounts Report as the former includes cash and non-cash items.

¹³ To facilitate their functioning with a measure of autonomy, the state governments have the right to legislate for raising revenue collection from the following sources: state land and property tax and royalties; including individual business profit, capital gains, and real estate's profit; user charge fees for state services; state's licenses; state personal income tax; levies on tourism; state enterprises and

both reveal that not only have overall Northern States' revenue collections increased, but also have their structures shifted away from a majority of own revenues to a heavy dependence on federal transfers (Table 3-1). In fact, the aggregate Northern States' revenue per capita has grown threefold – from less than 30 SDG per capita in 2000 to more than 150 SDG in 2009 – largely driven by a rapid increase in federal transfers to meet state budgetary needs. The increasing role of transfers comes from the weak position of Northern States' own resource mobilization, which sharply contrasts their expenditure obligations. In fact, federal transfers have formed the backbone of resources available for Northern States since fiscal decentralization deepened in 2004/05. In a devolved fiscal system to lower levels of government this pattern is associated with the “re-booking” of previously centralized expenditure line items to the states (World Bank, Sudan PER, 2007).

Table 3-1: Northern States actual revenues, 2000-2009

Items	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nominal Revenue (million SDG)										
Aggregate Revenue	724	942	1,224	1,574	2,427	3,120	4,136	4,679	5,198	5,317
Own Revenue	553	619	743	810	1,193	1,444	1,541	1,813	2,009	2,008
Transfers	171	323	480	765	1,234	1,677	2,595	2,866	3,188	3,309
Per Capita Revenue (SDG)										
Aggregate Revenue	27.8	35.1	44.4	55.5	83.3	104.2	134.5	148.0	156.0	159.6
Own Revenue	21.2	23.1	27.0	28.6	40.9	48.2	50.1	57.3	60.3	60.3
Transfers	6.6	12.0	17.4	27.0	42.3	56.0	84.4	90.6	95.7	99.3

Source: FMOFNE (the Final Account Report) and World Bank staff estimates.

3.4 **The Northern States' own revenue mobilization showed relatively modest growth, especially over the CPA interim period** (Table 3-1). This highlights the need to substantially enhance the Northern States' financial capacities, even at their present level of expenditure responsibilities. The unbalanced picture between Northern States' expenditures and own revenue sources is cause of real concern: only about one-third Northern States' expenditures are mobilized from states' own revenue sources. In contrast, cross-country studies show that sub-national governments in developing countries finance up to 70 percent of their spending from own sources.¹⁴

3.5 **The weak own revenue mobilization efforts can be attributed to a number of factors**, and include (World Bank, 2009): i) Disruption of revenue collection due to security problems (Darfur, Blue Nile, South Kordofan, Kassala); ii) low collection capacity due to lack of infrastructure such as vehicles, trained staff, adequate databases on which to impose taxes equitably and manage collections; iii) depressed economic activity due to underperforming agriculture and livestock sectors with low productivity, lack of competitiveness, insufficient diversification of markets for agricultural exports, and weak technology); and vi) a weak private sector, which lacks facilitation through basic infrastructure such as roads, bridges, railways, electricity and power, and developed financial sectors at the state level.

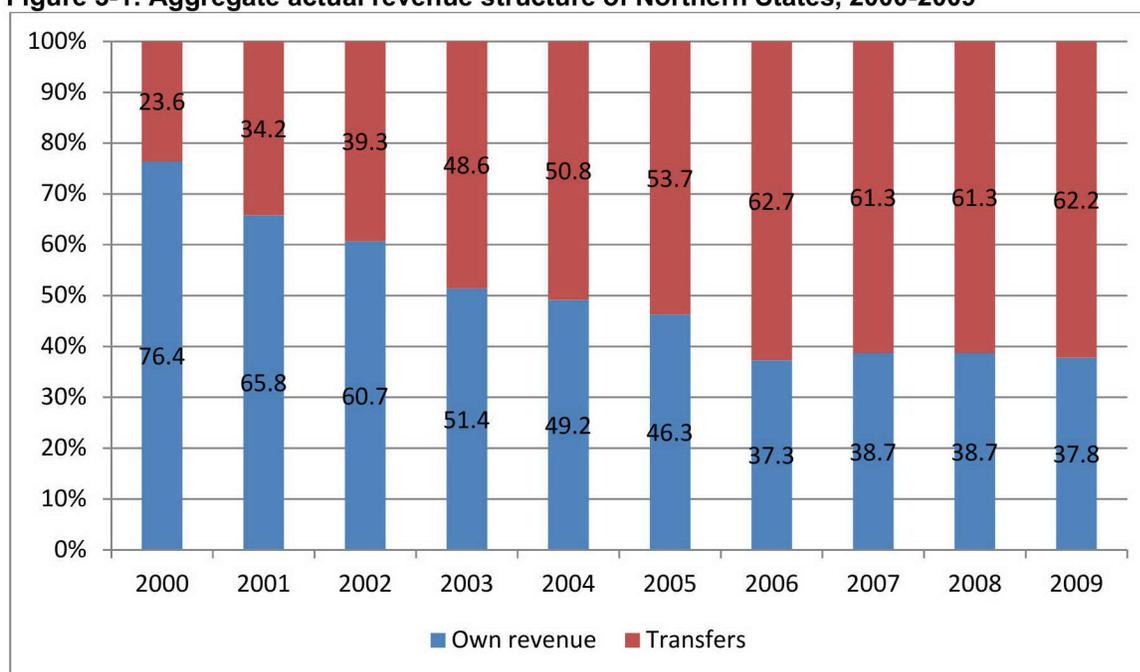
projects and national parks; stamp duties on state transactions; livestock tax, with a proportion being assigned to localities; border trade charges or other levies in accordance with national legislation; loans and borrowing in accordance with Article 203 of the Constitution; and other state taxes, which do not encroach on National or Southern Sudan Governments taxes.

¹⁴ For instance in Shah and Zia (1994).

Aggregate revenue composition

3.6 **The Northern States' revenue structure has rapidly changed over the past decade with ever-increasing dependence on federal transfers and decreasing contributions of state's own revenues to the resource envelope** (Table 3-1 and Figure 3-1). The rapid structural change within the Northern States' revenue composition was facilitated by several revenue reforms triggered by the Government of Sudan over the period 2000-2009; these reforms significantly increased the number of shared revenue items to be collected by the federal government and thereafter transferred to the states. For instance, the agricultural tax, which was formerly a key source of income for the states, was abolished in 2001, impelling Northern States to rely more heavily on regular transfers to offset the forgone revenue of the abolished tax. Likewise, the introduction of the value add tax back in 2000, which replaced the state collected sales tax, has significantly reduced the Northern States' own revenue.

Figure 3-1: Aggregate actual revenue structure of Northern States, 2000-2009

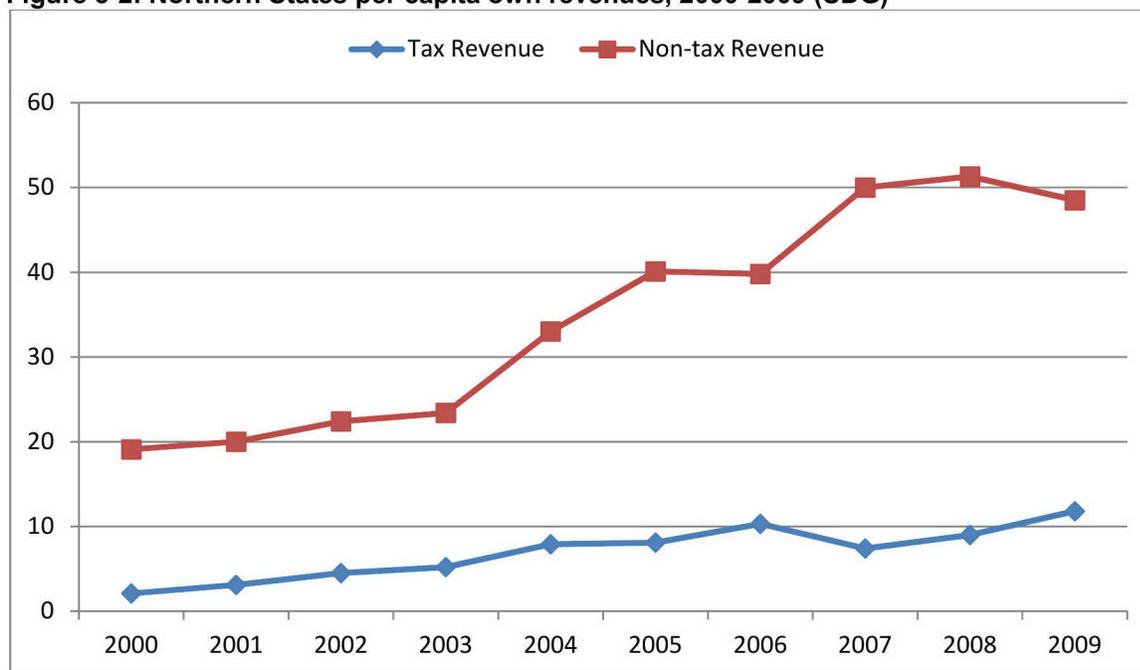


Source: FMOFNE (the Final Account Report) and World Bank staff estimates.

States' own revenue

3.7 **The Sudan Interim National Constitution of 2005 grants governments of Northern States the right, in Article 195, to legislate for raising revenue collection through a variety of local taxes and charges for services provided by the state.** Notwithstanding this, growth of Northern States own revenue has remained relatively flat, especially tax collections (Figure 3-2). At the same time, non-tax collections have increased from SDG 19 to around SDG 50 per capita over 2000 to 2009; but growth has slowed in recent years and collections even have leveled-off in 2008. Yet, non-tax revenues make up the vast majority of own revenue collections with a more than 80 percent share of states' revenues. Non-tax revenues come in many ways such as user charge fees for state services (e.g. health, education), state licenses, levies on tourism, state enterprises, projects and national parks, border trade charges, and through loans and borrowing (in accordance with INC Article 203).

Figure 3-2: Northern States per capita own revenues, 2000-2009 (SDG)



Source: FMoFNE (the Final Account Report) and World Bank staff estimates.

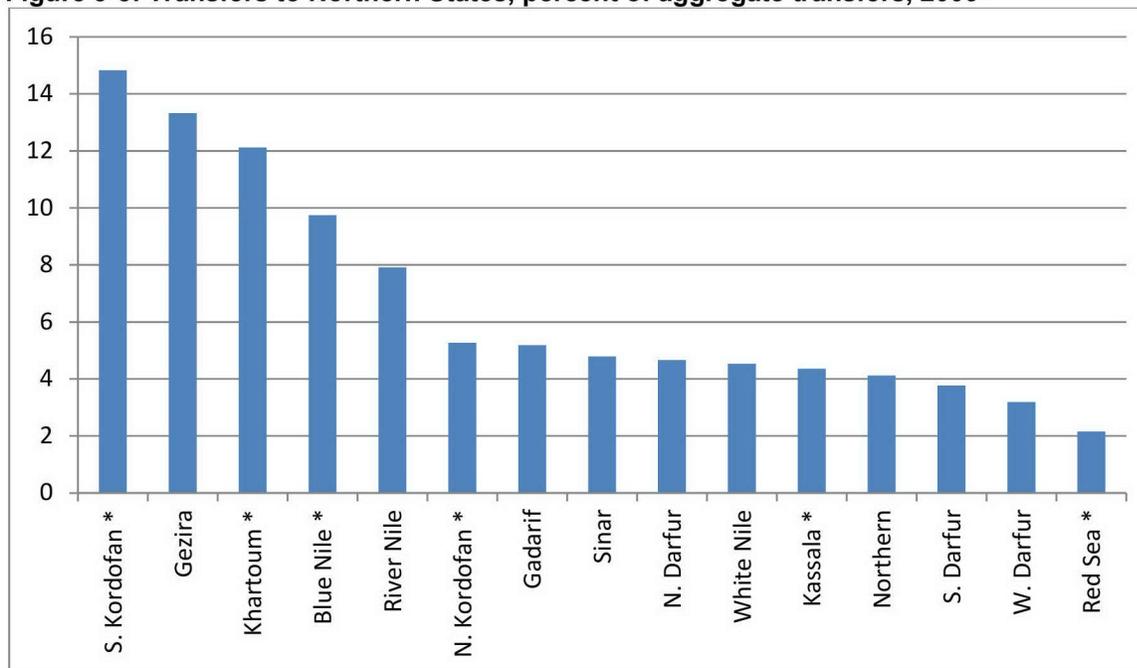
3.8 The low level of revenue produced by taxes levied by the state governments is a consequence of their narrow tax base and the fact that most of the productive and buoyant sources of tax revenue (e.g. income tax, value added tax, customs) have been assigned to the federal government. In fact, with the existing structure in place, lower levels of government may not even have the ability to improve their own revenue capacities. What may well be needed is a tax administration reform that reduces the costs of collection and provides for more autonomy to states to levy promising taxes. to control their own revenue streams.

3.9 Apart from being low, sources of Northern States own revenues vary widely across states, reflecting unequal revenue capacity and economic activity among states. For instance in 2009, Khartoum State's own revenue alone accounted for 52 percent of aggregate own revenue of Northern States. The remaining 14 states in turn raised only 48 percent of the overall own revenue. Individual shares in overall revenues ranged from around 8 percent in Red Sea State to less than 1 percent in West Darfur and Blue Nile States.

Federal transfers

3.10 Federal transfers, which finance about two-thirds of Northern States' expenditures, can be classified into block transfers (general-purpose transfers) and earmark transfers (specific purpose transfers). General-purpose transfers have been the faster growing element of these transfers. While it is clear that the overall transfer envelope increased throughout 2000-2009 (i.e. vertical share), examination of the division of funds across individual states (i.e. horizontal share) helps to identify where to better target resources in favor of marginalized areas (Figure 3-3). And in fact, there exist wide disparities across recipient states. Of the fifteen states in Northern Sudan, the four states of South Kordofan, Gezira, Khartoum and Blue Nile dominate the picture with more than 50 percent of total federal transfers to all fifteen states.

Figure 3-3: Transfers to Northern States, percent of aggregate transfers, 2009



Source: FMoFNE (the Final Account Report) and World Bank staff estimates.

Notes: * Indicates a PETS State.

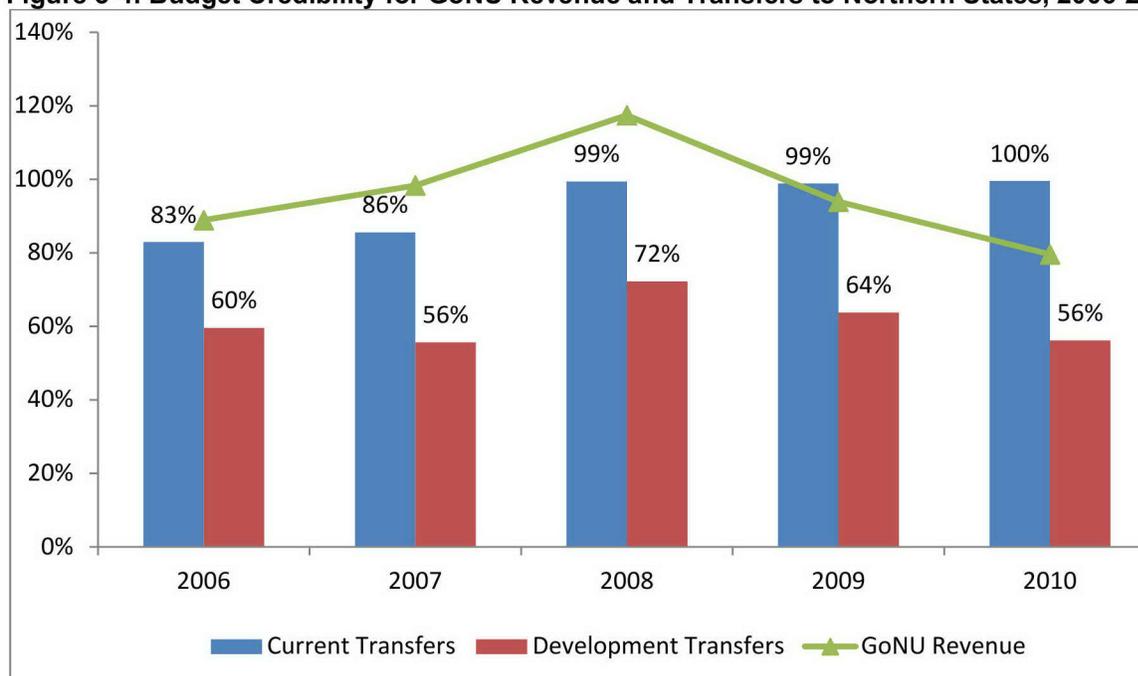
3.11 Weak budget credibility is a serious challenge for development transfers to sub-national governments. Figure 3-4 shows the execution rate – i.e. the comparison between budgeted and actual transfers from the federal to the state level – for both current and development transfers. Budget credibility was constantly higher for current transfers, which somewhat reflects the priority given for releasing funds for wages and salaries. Over the period 2008 to 2010, the execution rate for this category was almost complete at 100 percent. Looking at development transfers, however, shows a very different pattern where the execution rate is historically relatively low – somewhere in the order of 50-70 percent between 2006 and 2010. Figure 3-4 also displays the overall GoNU revenue level in comparison to the transfers: And there is a tendency that higher revenues tend to translate into slightly higher levels of budget execution.

3.12 Development transfers are highly vulnerable to the revenue volatility on the federal level, which translates into volatilities in lower administrative levels. In the wake of the global financial crisis, for instance, where revenues fell on the federal level, the budget execution rate of development transfers plummeted from 72 percent to 64 percent and to 56 percent over the period 2008 to 2010. Over the same time, the GoNU revenue budget execution rate fell from 117 percent to 80 percent, respectively. This under-performance in the budget execution, which was already highlighted in the PER (World Bank 2007), remains a major obstacle to improving social spending and channeling capital expenditures to priority areas. The impact is particularly detrimental to the overall development agenda of Sudan since pro-poor spending as defined through expenditure for basic service delivery such as health, education, water, are under the responsibility of sub-national governments.

3.13 The low execution on federal development transfers has significant implications for the budget planning and execution of the states. It undermines state fiscal space to maintain basic infrastructure spending and to undertake vital development projects. In the

absence of predictable flows of resources to the states, state development execution is equally jeopardized. But to maintain or improve services delivery at the state and local levels, states require predictable flows of resources given that most states are heavily dependent on federal transfers. To increase predictability active expenditure management is needed on the federal and state levels alike. More effective budget execution and monitoring could be achieved if based on conservative fiscal planning, to provide fiscal cushion, and a medium term fiscal outlook that manages revenue volatility and pursues expenditure areas based on policy priorities.

Figure 3-4: Budget Credibility for GoNU Revenue and Transfers to Northern States, 2006-2010



Source: FMoFNE and World Bank staff estimates.

Notes: Budget credibility is defined as the comparison between budgeted and actual revenues/expenditures.

3.14 Federal transfers to the Northern states are discretionary in the sense that while the CPA commits to decentralization and pro-poor development, there are no fully enforced and simple formulas and neither are they enshrined into the INC. Likewise, monitoring and institutional arrangements to ensure fair transfers according to plans are insufficient. It remains unknown how the federal government determines the annual transfer volume of the vertical share and on what grounds. It appears that an ad-hoc approach on discretionary basis is used each year at budget time to determine the overall size under consultation of the State Ministries of Finance. There is also no concrete public information available about the exact determination of the horizontal distribution of resources across states. It appears, however, that a formula-based approach is used to initially determine the horizontal shares each year. This reportedly includes indicators such as each state's fiscal performance, population density, human resources, natural resources, basic infrastructure, education, health, security, and per capita income.¹⁵ Yet, the final allocation is subject to negotiations. Both the

¹⁵ The CIFA (World Bank, 2010c) describes the formula used, which includes (weights in brackets):
 Financial performance, including budget performance and revenue potential (10)
 Population size (15)

PER (2007) and CIFA (2010) conclude that it cannot be established how actual transfer levels are arrived at; neither can the use of the formula being confirmed.

3.15 The lack of transparency leads to a great degree of unpredictability from a state perspective, rendering states compromised in their ability to forecast and effectively manage their fiscal obligations. In an effort to increase transparency and fairness in the allocation of funds to the Northern States, a high level Fiscal and Financial Allocation and Monitoring Commission (FFAMC)¹⁶ was formed in 2005. But in reality, the FFAMC was not functioning sufficiently due to a series of institutional problems (World Bank, Sudan CIFA, 2010). A broader symmetrical fiscal federalism arrangement is needed to ensure transparency, equity, and predictability in the allocation of fiscal resources across Northern States.

b. Northern States: Public expenditure trends and composition

Expenditure trend

3.16 Northern States' expenditures have increased significantly over the past decade. The aggregate Northern States' expenditure per capita has grown by over five times – from SDG 28 in 2000 to more than SDG 175 in 2009 – largely driven by rapid expansion in recurrent expenditure such as wages and salaries (Figure 3-5). While on a downward trend since 2000, where it stood at around 90 percent, current expenditure still made more than 60 percent of total expenditure in 2009. Within current expenditures, allocations for wages and salaries are above any other category and far outweigh goods and services. In fact, the share of wages and salaries grew from around 50 percent of overall Northern States current expenditures in 2000 to around 70 percent in 2009. This budget bias towards wages and salaries to a large extent comes from long-term structural increases in numbers of civil employees associated with decentralization as well as short-term measures designed to reduce unemployment.

3.17 The share of Northern States' aggregate development expenditures in total expenditure grew from 9 percent in 2000 to 38 percent in 2009. Yet, with SDG 68, per capita development expenditure is rather low and makes only 60 percent of the SDG 108 recorded for current expenditure. Development spending was somewhat stagnant over 2006-2008, but increased by 30 percent from 2008 to 2009. While 2009 figures show a positive step forward, allocation outturns devoted to development projects continue to be crowded out by wages and salaries, which receive priority in budget execution. Since many years, the existence of significant recurrent obligations in Northern States' budgets has constrained the fiscal

Natural resources and the state's exploitation of them (10)

Human resources (15)

Infrastructure (5)

Education, including standards of pupil-to-teacher ratios (10)

Health, including access and costs (10)

Security (10)

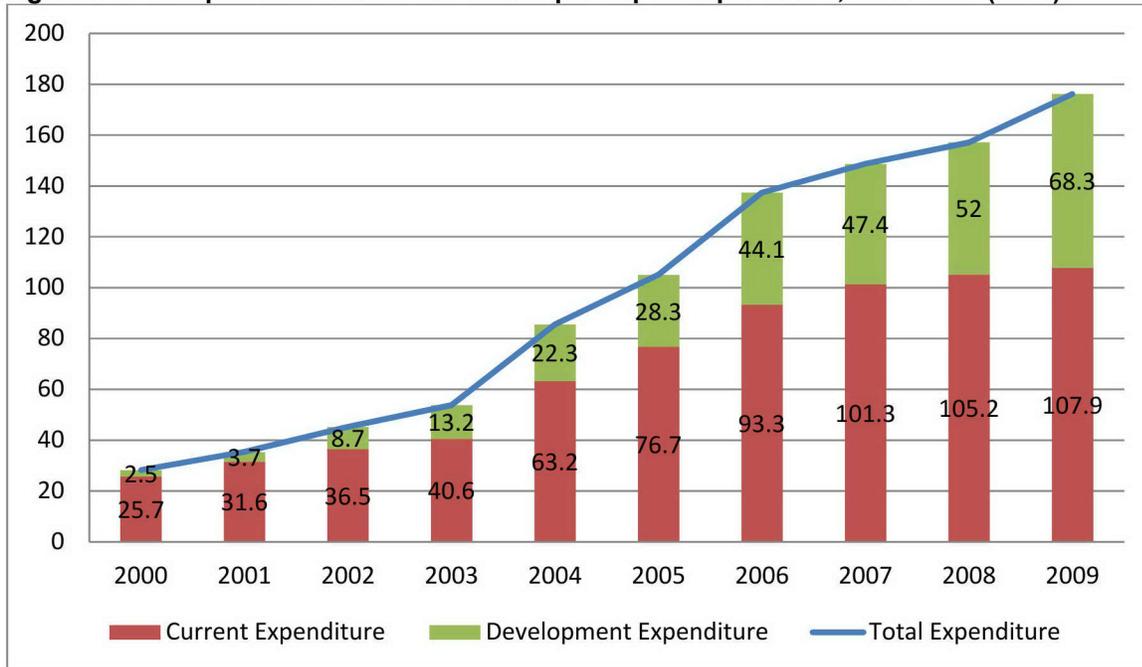
Average per capita income (5)

Distance from the center and ports, including road quality (10)

¹⁶ The CPA defines the FFAMC's responsibilities: to monitor and ensure that equalization grants from the National Revenue Fund are promptly transferred to respective levels of government; to ensure appropriate utilization and sharing of financial resources; to ensure that resources allocated to war affected areas are transferred in accordance with agreed upon formulae; and to ensure transparency and fairness in the allocation of funds to the GOSS and states/regions according to established ratios or percentages stipulated in this Agreement.

capability of states to provide sustainable financing plans for development projects. This in turn, may adversely impact states own revenue mobilization.

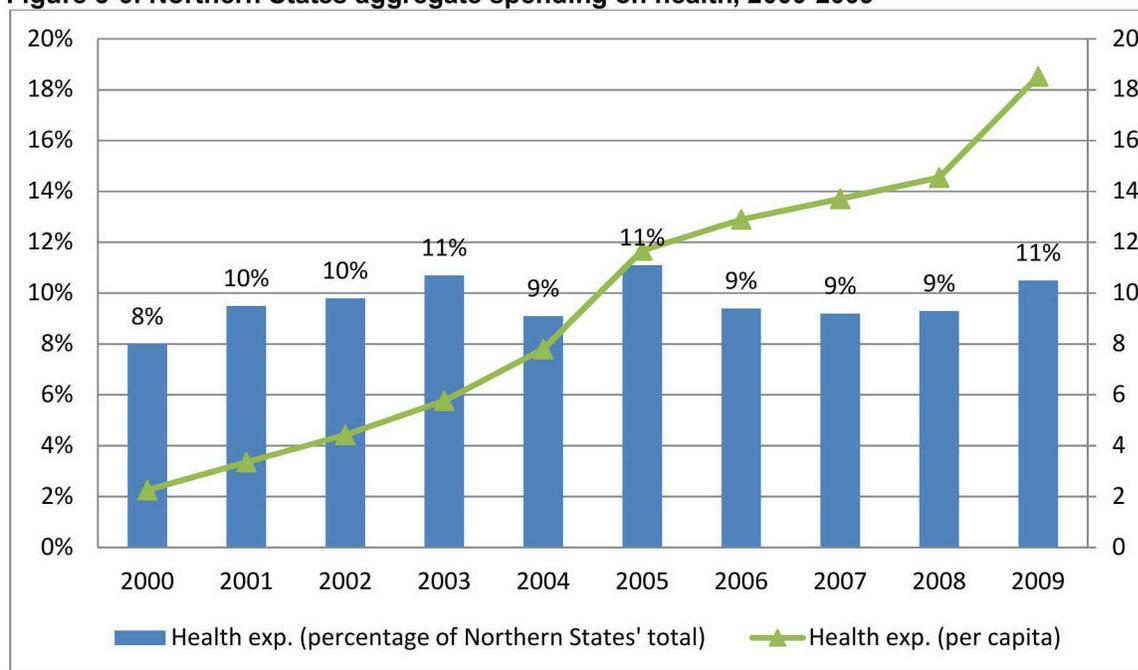
Figure 3-5: Composition of Northern States per capita expenditure, 2000-2009 (SDG)



Source: FMoFNE (the Final Account Report) and World Bank staff estimates.

3.18 At the background of rising aggregate expenditures across all Northern States, health expenditures have grown proportionally in total terms. This is displayed in Figure 3-6, where a stable relative share of 9-11 percent of total expenditures of Northern States translated into an increase of 60 percent in per capita health spending from SDG 11.7 to 18.5 over 2005 to 2009. It comes at this background that the choice of the health sector for this study is particularly appropriate since spending on health is relatively high, while health outcomes remain modest (see Tables 2-1 and 2-2 above).

Figure 3-6: Northern States aggregate spending on health, 2000-2009



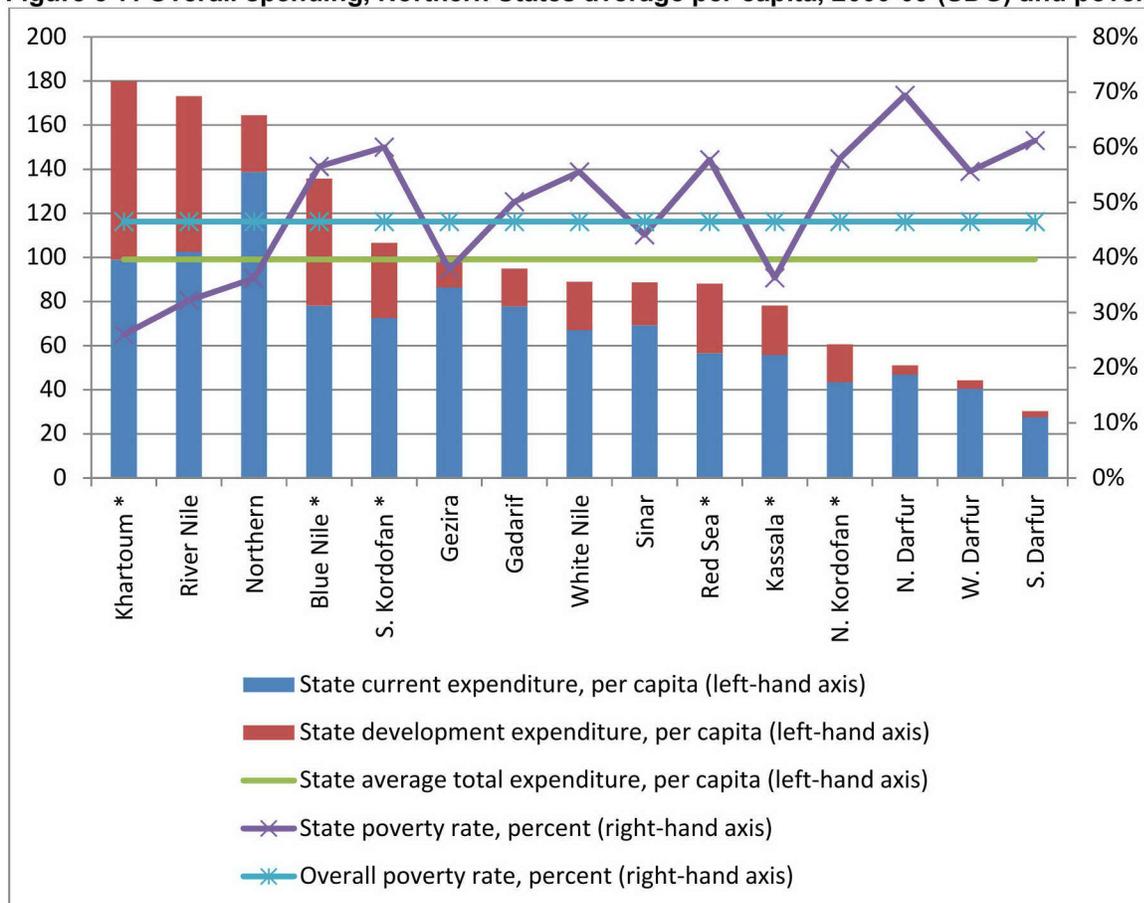
Source: FMoFNE (the Final Account Report) and World Bank staff estimates.

Expenditure priorities and poverty levels

3.19 But despite the significantly increased aggregate expenditures, there seems little evidence of improved Northern States' budget allocations and outcomes given the high poverty rates observed in 2009. Overall, 46.5 percent of the population in the Northern States is below the poverty line; and there is significant variation between urban and rural areas. According to the World Bank's Sudan Northern States Poverty Profile (2011), 57.6 percent of the rural population is below the poverty line compared to 26.5 percent of the urban population. Much more, there is large variation between states. Poverty rates range from almost 70 percent in Northern Darfur, to 50 percent in Gadarif and 26 percent in Khartoum (Figure 1-3).

3.20 Comparing per capita overall expenditure of Northern States with poverty rates observed in states shows that there is an opportunity to refocus expenditure to those states with higher poverty rates. It appears that budget allocations across states are to a large extent not following poverty level criteria. Total per capita average spending of Northern States between 2000 and 2009 is SDG 99.1. Figure 3-7 shows that six States have a spending level of equal or higher than this average level. Of these, Khartoum, River Nile and Northern are the three states with the highest average per capita expenditure. At the same time they have among the lowest poverty levels, all below the overall poverty rate of 46.5 percent. Blue Nile and South Kordofan have more than average levels of spending and more than average high poverty rates. This may be attributable to their geographical location bordering Southern Sudan states and a related vulnerable situation. Then there are states such as North Kordofan, While Nile, and South, North and West Darfur, which have very low levels of expenditure – particularly development expenditure – and the highest poverty rates.

Figure 3-7: Overall spending, Northern States average per capita, 2000-09 (SDG) and poverty rates



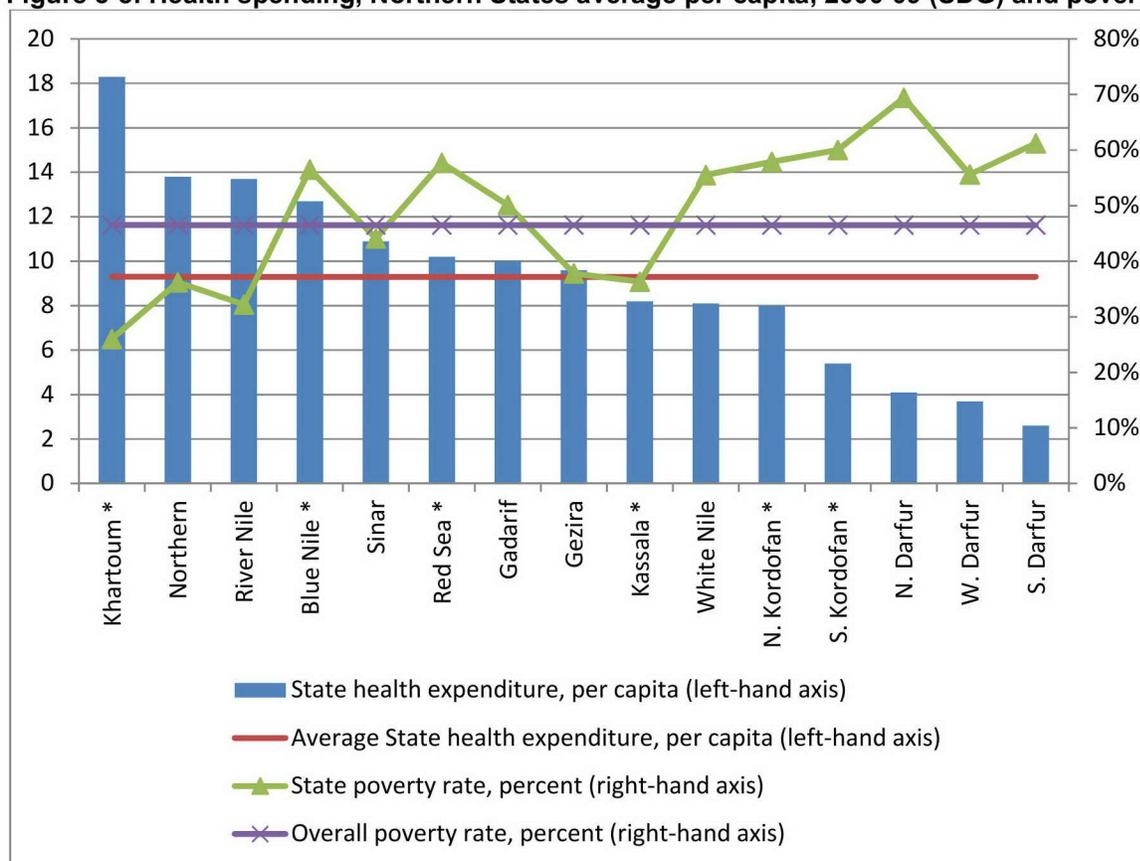
Source: FMoFNE (the Final Account Report); World Bank, Sudan Poverty Profile (2011); and World Bank staff estimates.

Notes: State's development spending measure as an average for 2000-2009 in million SDG, while state's poverty level is estimated based on NBHS 2009.

* Indicates a PETS State.

3.21 The developments of health expenditures and poverty rates confirm the imbalance between relatively higher spending in states with lower poverty rates. Total per capita average health spending of Northern States between 2000 and 2009 is SDG 9.3. Figure 3-8 displays that eight States have a health spending level of equal or higher than this average level. Of these, again, the three states of Khartoum, River Nile and Northern have the highest per capita health spending of Northern States; but states such as North and South Kordofan as well as South, North and West Darfur are the ones with the highest poverty rates and the specific need to increase pro-poor spending such as on health.

Figure 3-8: Health spending, Northern States average per capita, 2000-09 (SDG) and poverty rates



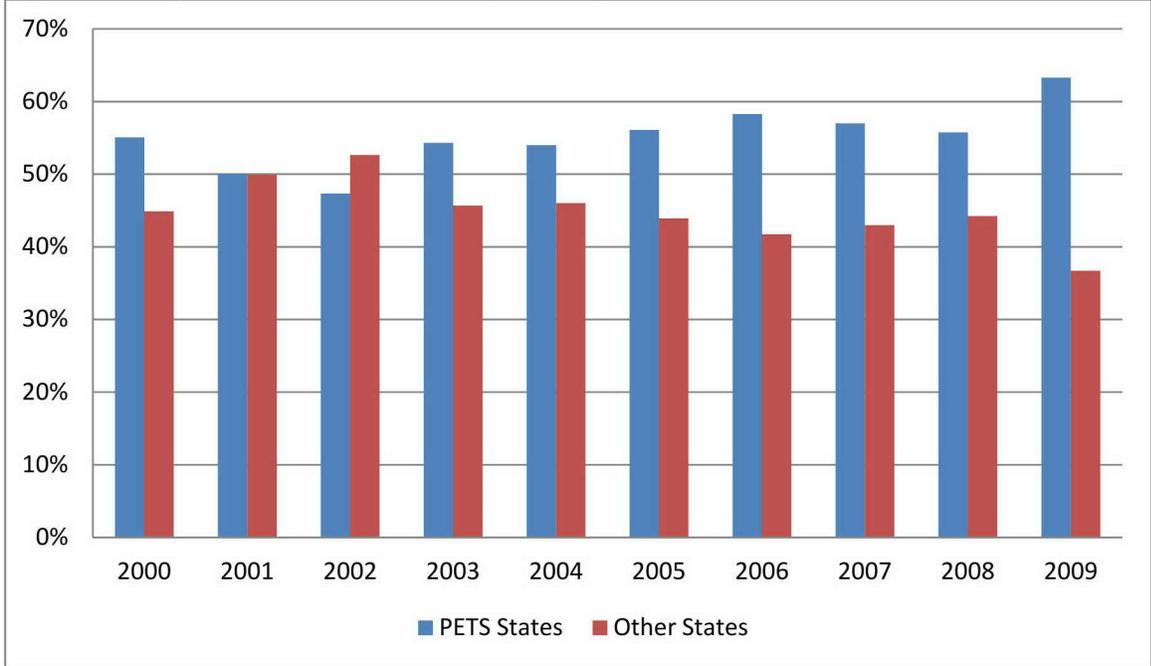
Source: FMoFNE (the Final Account Report); World Bank, Sudan Poverty Profile (2011); and World Bank staff estimates.

Notes: State's development spending measure as an average for 2000-2009 in million SDG, while state's poverty level is estimated based on NBHS 2009.
* Indicates a PETS State.

c. The 6 PETS States

3.22 The selected 6 PETS States are a representative sample on the state level. Their populations is in total 44 percent of the population of Northern Sudan. On the revenue side, they constitute 46 percent of the states own revenues and more than 45 percent of federal transfers to states. On the expenditure side, they occupy the majority share of health sector spending across the Northern States. The average share of PETS States in health spending between 2000 and 2009 was 55 percent; this has gradually increased over time and was 63 percent in 2009 (Figure 3-9). In terms of per capita health expenditures of individual PETS States, Khartoum State stands out with SDG 18.3 on average between 2000 and 2009 and South Kordofan shows the lowest with SDG 5.4 (Figure 3-8). The significant share and diversity of PETS States in Northern States health spending ensures the policy relevance of the analysis of the actual survey instruments in the next chapters.

Figure 3-9: Significance of the PETS States: Expenditures on health sector, 2000-2009



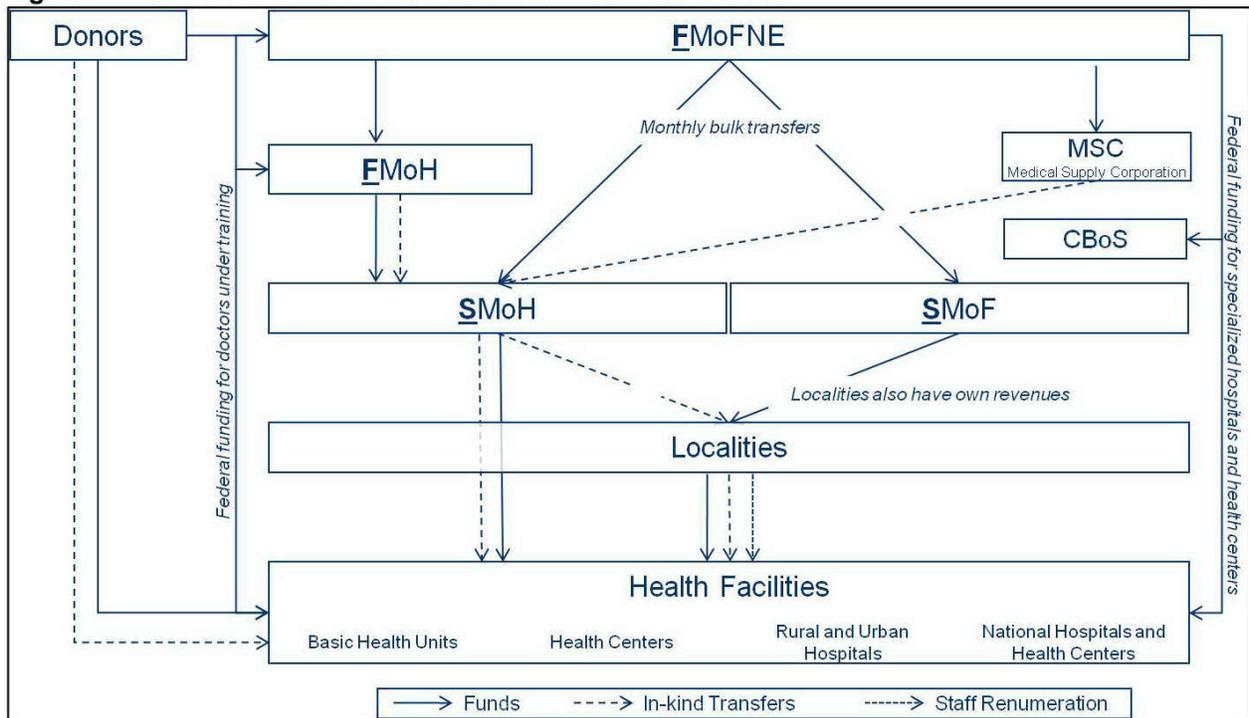
Source: FMoFNE (the Final Account Report) and World Bank staff estimates.

4. CHAPTER FOUR: TRACKING RESOURCES IN THE HEALTH SECTOR¹⁷

a. Flow of public funds in the health sector

4.1 **Basis of the PETS questionnaires is the chart of flow of funds, which identifies three main layers of public resource flows, under the federal level, within the Sudanese health sector.** The three levels are: i) The State Ministry level, including the State Ministries of Health and the State Ministries of Finance; ii) the level of the localities; and iii) the facilities level. The multiple layers are depicted in Figure 4-1. Generally speaking, funds trickle down from the federal to the state level, then to the localities from where they reach the actual health facilities. Own resources can add to these flows on some levels. In effect, the majority of health facilities receive funds and in-kind transfers from their respective locality.

Figure 4-1: Chart of flow of funds in the Sudanese health sector



Source: World Bank staff visualization, based on information of field visits, documents review and interviews with senior and technical staff of the government.

4.2 **There are two main exceptions to the general flow of funds through the layers.** The Federal Ministry of Finance and National Economy (FMoFNE) transfers funds directly to the facility level in the case of doctors under training and for funding of specialized hospitals and health centers. The latter support goes through the Central Bank (left- and right-hand side of Figure 5-1). The other exception is where the State Ministries of Health (SMoH) directly supply in-kind contributions and finance development expenditures for health centers and basic health units.

¹⁷ As mentioned earlier, the study recognizes the unique position of Khartoum State within the federal system of Northern Sudan. To account for this, this chapter incorporates, where possible, a benchmark comparator, which usually is the average of the PETS sample states in regards to a certain indicator or a the total of all PETS sample states.

4.3 **Federal transfers to the States Ministries are usually in bulk.** The FMoFNE manages monthly transfers to the states for them to meet their current and development expenditure. At the same time, the FMoH provides resources to the State Ministries of Health – both in-cash and in-kind – for specific expenditures arising in emergency cases, in the area of epidemiology, in disaster regions and for people affected by war and internal disturbance.

4.4 **The flow of material resources (i.e. drugs) usually begins with cash payments from the FMoFNE to the Medical Supply Corporation (MSC).** The MSC is an independent entity organizing the in-kind medical supply within the health system through its responsibility for purchasing drugs and other equipment and distributing it to the health sector, primarily through the State Ministries of Health.

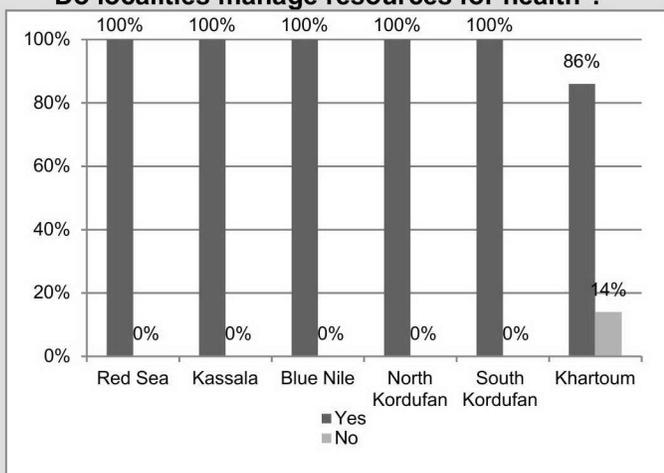
4.5 **The SMOHs and SMOFs use the support they get from the federal level and the MSC to provide in-kind and financial support to the localities.** From there, with the exceptions mentioned, the localities act as the primarily responsible unit to support the health facilities.

4.6 **International donors usually intervene at the facility level through their locally working agencies in Sudan, especially through grants and in-kind donations.** Typical in-kind contributions involve the procurement and distribution of drugs, but also other contributions. In some cases, donors contribute directly to the FMoH to support health related activities. In the case of donor supplied/supported loans, the process has always to go through the FMoFNE and from there through the Federal Ministry of Health (FMoH) down to the intended beneficiaries.

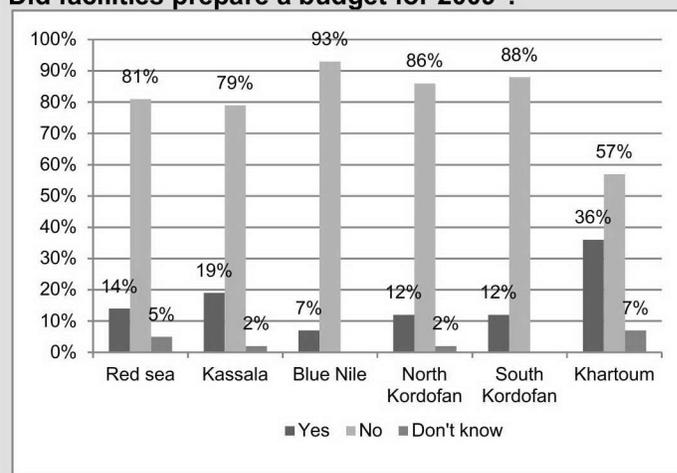
Box 4: Basic facts about PETS localities and facilities

This PETS tracks funding for service provision in the health sector from the state level to the locality level, which hosts the facilities as the places where actual health services are offered to the population. Chapter 2 gave an account of the breakdown of health facilities and their spread across states and localities (Table 2-3). Using PETS data, this box highlights few relevant characteristics of the localities and facilities to shed light on the operating environment of health facilities. It is obvious that facilities to a large extent are dependent on state and locality budgets and related in-kind contributions, leaving only a small fraction of facilities managed as budget entities/cost centers.

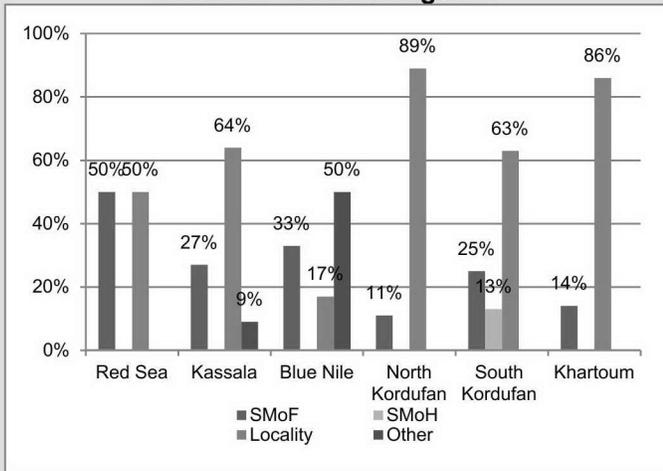
Do localities manage resources for health ?



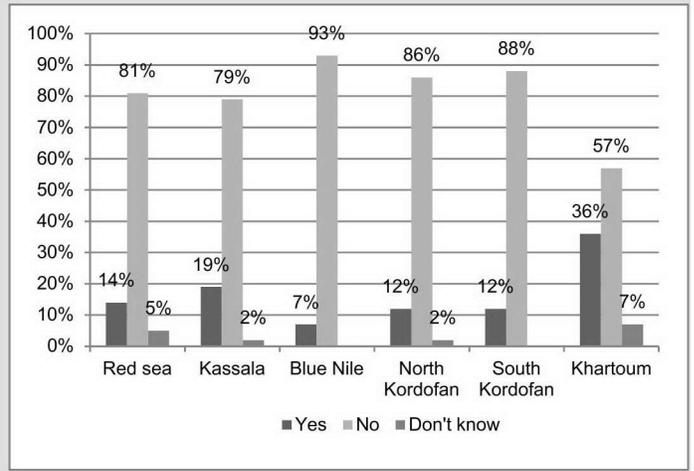
Did facilities prepare a budget for 2009 ?



Who assumes final decision-making authority of localities' health budgets ?

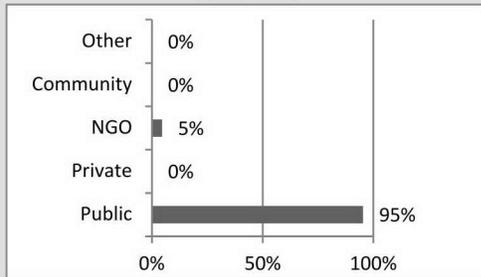


Do facilities have bank accounts ?

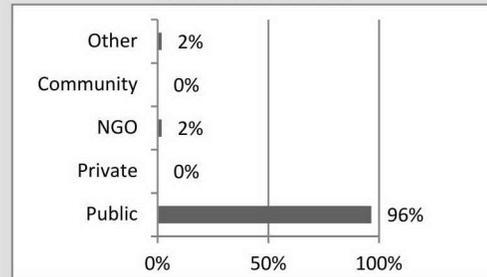


Who owns the facilities ?

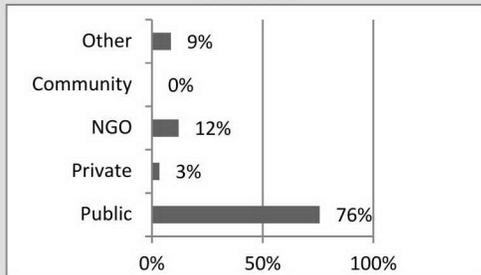
Red Sea



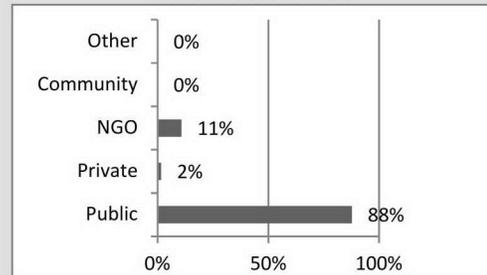
North Kordofan



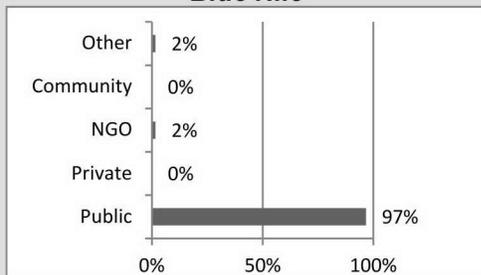
Kassala



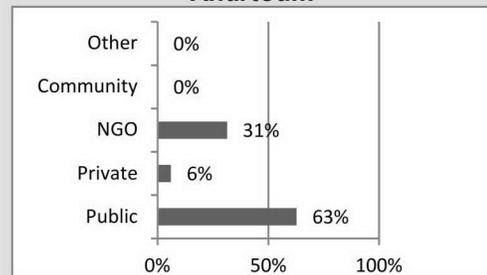
South Kordofan



Blue Nile



Khartoum



4.7 The previous Chapter 3 of this study showed the development of overall budgets of the Northern States. It became clear that state revenues have substantially increased over the last decade and that this trend was driven mainly by increased federal transfers, while state's own revenues leveled-off starting from 2007. The analysis also shed light on the development of the States' health sector expenditures: It was striking to see that Northern States spending on health in percentage of aggregate state expenditure stayed largely constant while other sectors such as education had to accommodate relative cuts in the budgets.

4.8 Looking at the financing side, this initial section of Chapter 4 will address the question on "who" finances the health sector. As such, the analysis will look at the government sources, donors, and the households' contributions to the health sector. With this, the chapter will account for the decentralized nature of health with responsibilities on the locality, state and federal government levels, respectively, and lays the foundation for a subsequent tracking of public resources.

b. Federal financing

4.9 A comprehensive picture of federal and Northern states' spending on health, based on federal and state final accounts, shows that health expenditure grew significantly in nominal terms from SDG 129.7 to SDG 981.9 between 2000 and 2009. The bulk of health spending occurs at the state level, which is consistent with the fact that the primary responsibility for basic service delivery lies with state governments (Table 4-1). In fact the observed growth is largely driven by rising federal transfers to Northern states. At that background a major concern is that investment spending in the health sector is very low. Looking at the combined federal and Northern states' spending, in 2005 for instance, current expenditure made up 84.1 percent of all health spending; while this has slightly improved over recent years the level was still at 78 percent in 2009. It is noteworthy that the rise in development spending was again largely driven by state level trends, where development spending increased to 29.2 percent in 2009.

4.10 Looking at purely federal health expenditures also shows a significant increase in nominal terms between 2000 and 2009, but with two breaks. In 2005 federal health expenditures protracted by 7 percent from SDG 208.4mn to SDG 194.3mn; this repeated in the wake of the global financial and economic crisis in 2009 when expenditures fell sharply by 12 percent. Within federal health expenditures, the ratio between current and development expenditure is fairly volatile over time, but generally confirms the aggregate view and shows a very low level of investment spending. Over the period 2000 to 2009, development expenditures were usually between 1 and 15 percent and stood at 9.8 percent in 2009. The overall low level can be explained as a consequence of the policy to transfer the primary responsibility for service delivery from the federal to the state levels as part of the deepened decentralization since 2005; this has mainly impacted on development spending. In turn, the high level of current expenditures in federal health spending is likely due to the special arrangements for payment of salaries for doctors in specialized hospitals and health centers within the Sudanese health system (Figure 4-1).

Table 4-1: Federal and Northern States health spending, 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
SDG million										
TOTAL Health Expenditure	129.7	180.0	210.3	280.7	435.7	543.8	669.5	816.1	899.3	981.9
<i>Current</i>	116.8	160.2	203.9	268.5	402.7	457.3	606.4	743.9	806.4	766.1
<i>Development</i>	12.9	19.8	6.3	12.2	33.0	86.5	63.1	72.2	92.9	215.7
FEDERAL Expenditure	71.1	90.3	88.3	117.1	208.4	194.3	272.9	382.7	414.7	364.6
<i>Current</i>	59.8	72.8	87.3	113.0	188.3	167.1	265.3	357.9	393.4	328.6
<i>Development</i>	11.3	17.5	1.0	4.1	20.1	27.2	7.6	24.8	21.3	35.9
STATE Expenditure	58.6	89.8	121.9	163.6	227.4	349.5	396.6	433.4	484.6	617.3
<i>Current</i>	57.0	87.4	116.6	155.5	214.4	290.2	341.1	386.0	413.0	436.8
<i>Development</i>	1.6	2.4	5.3	8.1	12.9	59.3	55.5	47.4	71.6	180.5
Breakdown of TOTAL Health Expenditure (in %)										
Current	90.1	89.0	97.0	95.7	92.4	84.1	90.6	91.2	89.7	78.0
Development	9.9	11.0	3.0	4.3	7.6	15.9	9.4	8.8	10.3	22.0
Breakdown of FEDERAL Health Expenditure (in %)										
Current	84.1	80.6	98.9	96.5	90.4	86.0	97.2	93.5	94.9	90.1
Development	15.9	19.4	1.1	3.5	9.6	14.0	2.8	6.5	5.1	9.8
Breakdown of NORTHERN STATES Health Expenditure (in %)										
Current	97.3	97.3	95.7	95.0	94.3	83.0	86.0	89.1	85.2	70.8
Development	2.7	2.7	4.3	5.0	5.7	17.0	14.0	10.9	14.8	29.2

Source: World Bank (2007a); and State Final Accounts (various years).

4.11 **Focus of this analysis is on tracking state level expenditure on its way to the service provider level. It was chosen to do so due to the importance of federal transfers in state level revenues; these made up more than 60 percent in 2009** (Figure 3-1 above). As a consequence, this PETS represents de facto a state level PETS within a federal system, and is based on a representative sample on the state level to allow for aggregation of data/results to all Northern States. While this approach allows insights of how, fuelled by federal transfers, funding flows through the three nodes of state, locality and facility levels, it does not analyze non-state transfers health spending on the federal level. Yet, this is sizeable and about one-third of health funding identified in Table 4-1. However, the PETS captures any direct transfer from the federal level to the facility or locality level.

c. State level financing for service delivery

4.12 **Data on aggregate expenditures at state level displays significant variations between states in level of spending on health both as shares of total expenditures and on per capita basis.** According to survey data, on average the PETS States spent 22.8 SDG per capita with Blue Nile at the high end of approximately 41 SDG per capita and South and North Kordofan at the lower end with 10-13 SDG per capita (Table 4-2). Despite their low level of spending, the health sector is clearly a priority sector for North and South Kordofan which spend more than one-fifth of their budget in the sector. The states of Red Sea and Kassala follow far behind with 14 percent of the public expenditure allocate to health.

Table 4-2: State level expenditure on health: total, percentage of total, and per capita¹⁸

State	Total health sector expenditure (million SDG)	Health share of total state expenditure	Per capita expenditure on health (SDG)
Blue Nile	34.2	8%	41.2
Kassala	46.0	14%	25.7
Khartoum	147.4	9%	28.0
North Kordofan	30.5	23%	10.4
Red Sea	34.8	14%	25.0
South Kordofan	18.0	22%	12.8
Total 6 PETS States	311.1 <i>(Average: 51.8)</i>	11%	22.8
Total Northern States	617.3 <i>(Average: 41.2)</i>	11%	20.0

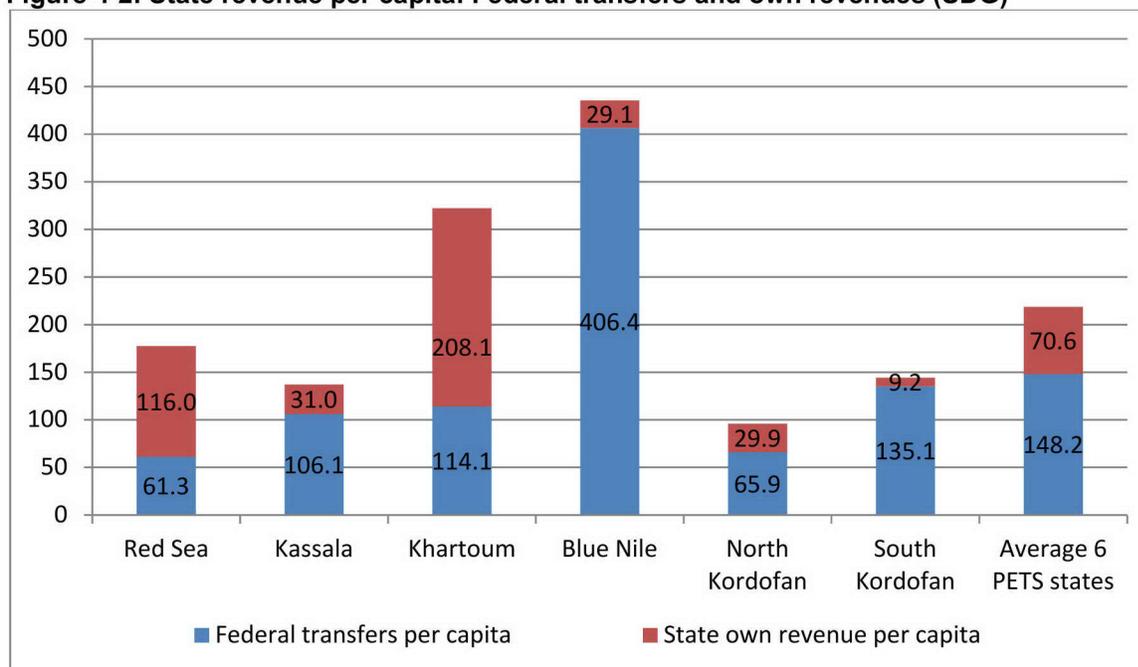
Source: Survey data from SMOF and FMOFNE.

4.13 **The relative high spending per capita in Blue Nile reflects the high level of federal transfers on a per capita basis as compared to the other states** (Figure 4-2). This more than compensates for the lower state revenue mobilization. In other words, in Blue Nile, the overall resource envelope and the resources for the health sector on per capita basis are higher than in all other PETS States.

4.14 **On average, the PETS States mobilize about one-third of state income on per capita basis through own revenues.** This is driven largely by Red Sea and Khartoum State, both of which mobilize own resources in the order of double the level of the average (i.e. 65 percent of per capita State revenue). In these states, their revenues from taxes and other revenue sources compensate for the lower level of federal transfers; this is especially true when comparing to states like Blue Nile. Blue Nile receives a significant amount of federal transfers compared to other states. With a per capita transfer of 406.4 SDG it more than compensates for the lower level of revenue per capita with a resulting total revenue per capita of SDG 435.5 as compared to the average for all states of SDG 223.0. North Kordofan on the other hand has both a low level of state revenue and federal transfers per capita. This impact on the level of health expenditure per capita although health expenditure as share of total state expenditure is above the average for the states in the sample.

¹⁸ The figures for total health sector expenditures deviate from the FMOFNE consolidated accounts in the case of Northern and South Kordofan. The figures used in this Table 4-2 are according to SMOF accounts. FMOFNE makes year-end adjustments adding the expenditure of federally executed development expenditure to SMOF accounts which increase total expenditure in Northern and South Kordofan significantly. In the case of North Kordofan and according to FMOFNE, for instance, total health sector expenditure in 2009 is SDG 88mn above the expenditure reported by SMOF in the PETS enumeration (approximately 305 percent); in fact, the value with the FMOFNE year-end adjustment represents an increase in health sector expenditure of 480 percent from 2008 to 2009; according to FMOFNE this is mainly due investments in new facilities. For the analysis and attempt to track resources in this Chapter 4, PETS survey data has been used. The choice was made to ensure consistency when analysing details of expenditures provided by SMOF, which are not available in the consolidated accounts data.

Figure 4-2: State revenue per capita: Federal transfers and own revenues (SDG)



Source: Survey data from SMoF.

4.15 The States also generate revenue from the health sector in the form of various facility level fees. Health facilities collect fees from patients. These fees are partly or in full transferred to localities that transfer part or in full the amount collected to State Ministry of Health or directly to State Ministry of Finance. The PETS States in total collected SDG 142.8mn and on average SDG 28.1mn (Table 4-3). The State Ministry Health also transfers partly or in full the fees received to the State Ministry of Finance. In some cases the health facilities transfers part of their fees directly to the State Ministry of Health and/or the State Ministry of Finance.

Table 4-3: State level expenditure on health and fees received from facilities (million SDG)

State	Total expenditure all sectors	Total health expenditure	Fees received from facilities	Total health expenditure minus fees	Share of total expenditure all sectors
Blue Nile	404.1	34.2	1.5	32.7	8%
Kassala	325.7	46.0	4.9	41.1	13%
Khartoum	1,671.1	147.4	92.1	55.4	3%
North Kordofan	134.9	30.5	10.6	19.9	15%
Red Sea	241.9	34.8	33.6	1.2	1%
South Kordofan	81.5	18.0	-	18.0	22%
Total 6 PETS States	2,859.1 <i>(Avg. 476.5)</i>	311.1 <i>(Avg. 51.8)</i>	142.8	168.3 <i>(Avg. 28.1)</i>	6%
Total Northern States	5,835.0 <i>(Avg. 389.0)</i>	617.3 <i>(Avg. 41.2)</i>	283.4	334.0 <i>(Avg. 22.3)</i>	6%

Source: Survey data from SMoF.

4.16 In some states, the fees collected from facilities account for a significant source of revenue, i.e. fees constitute a significant source of state revenue as compared to state budget expenditures on health (Table 4-3). In states like Red Sea and Khartoum a

significant share of the expenditures can be claimed to be funded by user fees rather than federal transfers and regular tax revenues of the states. One exception is South Kordofan where facilities retain all the fees collected, i.e. state expenditures are entirely funded from federal transfers and other state revenue. The differences reflect a disparity in how facilities in the PETS states can apply facility level fees and the extent to which they may retain them or transfer them to locality and/or state government.

d. Locality level financing for service delivery

4.17 Localities generate their own revenue and receive transfers from the state level to finance their locality expenditures including expenditures on health. State transfers to localities are the main source of funding for health at locality level (for all states in total accounting for approximately 74 percent of total). Fees from facility level retained at locality level only constitute a minor source of revenue (Table 4-4).

4.18 According to the survey data, none of the localities in the state of Red Sea received fees from the facilities. This is confirmed when comparing facility level and state level data. Red Sea is the only state in the sample in which SMOF collect their part of the fees directly from the facilities, i.e. they are not transferred by the facilities at their discretion to the SMOF nor via localities. This may partly serve to explain the relatively high level of revenue from fees. In South Kordofan, as with the state level observed earlier, none of the localities received fees from the facilities, i.e. all fees collected by facilities are retained at that level.

Table 4-4: Locality level revenue and expenditure on health (in million SDG)¹⁹

State	Total health expenditure	Source of revenue for health sector expenditure		
		State transfers	Net fees *	Other locality revenue
Blue Nile	4.5	4.0	0.2	0.2
Kassala	8.8	6.0	0.0	2.8
Khartoum	63.6	45.5	1.5	16.5
North Kordofan	8.9	6.4	0.1	2.4
Red Sea	9.3	7.4	-	1.9
South Kordofan	7.7	6.9	-	0.8
Total 6 PETS States	102.7 <i>(Average: 17.1)</i>	76.2	1.9	24.7
Total Northern States	277.3 <i>(Average: 18.5)</i>	205.7	5.1	66.7

Source: Survey data from localities.

Notes: Figures are aggregated, based on weighted averages for the localities that gave a full account of expenditures and/or provided data that could be verified for through a consistency check.

* Net fees are fees from facilities retained by locality, i.e. not transferred to state or federal levels.

4.19 As compared to the total state level expenditures for health of SDG 311.1mn, localities spend about SDG 102.7mn of which the main source stems from state level transfers. Of the total fees of SDG 2.8mn, which they receive from the facilities SDG 0.9mn is transferred to state levels while SDG 1.9mn is retained as their own revenue. It means that in total they provide an additional SDG 24.7mn for health sector expenditures in the state from their own sources of local revenue, i.e. localities contribute from own revenue sources an

¹⁹ The figures are aggregates based on weighted averages for the localities that gave a full account of expenditures and/or provided data that could be verified for through a consistency check.

additional of 7.3 percent to the combined total state and locality level health expenditure; this translates into 12.8 percent of the combined total state and locality level expenditures if excluding revenue from fees transferred to the state.

e. Facility level financing for service delivery

4.20 Facility level data show that the two most important sources of finance for the facilities are the state level transfers and fees although the amount of funding vary significantly between the states (Table 4-5). The amounts include both cash transfers and in-kind contributions from the various sources as well as the amount of fees retained by facilities (net of fee transferred to localities and state levels). The data displays a significant disparity between states concerning structure of funding at facility levels.

Table 4-5: Sources of funding for facility level expenditures (in million SDG)

State	Federal	State	Locality	Al Zakat	Health Insurance	Other	Fees *	Total
Blue Nile	0.0	12.1	0.9	0.0	7.5	7.1	3.1	30.8
Kassala	-	14.7	3.6	0.3	1.8	3.7	5.6	29.6
Khartoum	62.3	77.9	0.2	0.1	0.5	18.2	97.2	256.4
North Kordofan	0.8	6.8	1.9	0.1	2.6	0.6	2.1	14.9
Red Sea	0.1	8.4	2.0	-	0.3	0.6	4.4	15.9
South Kordofan	-	7.2	0.8	0.0	5.1	0.7	5.5	19.5
Total 6 PETS States	63.2	127.2	9.4	0.4	17.9	31.0	118.0	367.0 <i>(Avg: 61.2)</i>
Total Northern States	141.1	281.2	20.6	0.9	38.4	68.0	258.2	808.5 <i>(Avg. 53.9)</i>

Source: Survey data from facilities.

Notes: Figures are aggregates based on weighted averages from data of the sample of facilities that gave a full account of expenditures and/or provided data that could be verified for through a consistency check. For aggregation of the figures the total number of facilities in each state has been used, i.e. type of facility like hospital, health center, dispensary etc. The data on the total number of primary facilities were those provided by localities while the number of secondary and tertiary facilities was provided by SMoH. Aggregate figures for Northern States in total are weighted aggregates of facility level data using the number of different types of facilities in total for all states relative to the number of facilities in the sample.

Values displaying values of "0" represent amounts of less than 0.05.

Cells displaying "-" means no amounts were reported.

* These are not total fees collected but only fees that facilities retain for funding own expenditures. In some states a significant amount of the fees collected are transferred to SMoF and/or localities.

4.21 The State budgets constitute the main source funding for facilities in all states with Khartoum as the exception. In the case of Khartoum several facilities receive contributions directly from the federal level which is their main source of funding. They also receive significant contributions from the state level and in addition collect and spend a significant amount of fees. The high amount of federal funding can be attributed to the location

of hospitals in Khartoum, which serve all states; some of these hospitals were included in the PETS sample.

4.22 In three states (Blue Nile, Northern and South Kordofan) health insurance is an important source of funding. Health insurance finance expenditures in predominantly two ways: On the one hand through hospitals that are owned/operated by the Health Insurance Fund, and, on the other hand if patients who are insured are reimbursed for health facility expenses. In the former case, the facility records would capture the source of funding as coming from the Health Insurance Fund; this in turn would be visible in the PETS. In the latter case, however, the facility would record a fee paid by patients, thus the PETS would not be able to capture the contribution of the health insurance. Looking at Table 4-5, the higher level of contributions from health insurance in Blue Nile can likely be attributed to the fact that there the Health Insurance Fund owns/operates a relatively larger share of facilities than in other states.

Box 5: Al Zakat – Source for Social Protection of Individuals

Zakat is a primary social protection mechanism in Sudan. Zakat is a religious- based fund which is capitalized through a de facto wealth tax. The funds are used to provide income-generating schemes primarily to vulnerable populations. The Ministry of Welfare and Social Development oversees the programs and policies that regulate the Zakat, pension program, social insurance, women's and children's issues, and health activities. Administration of the Zakat program is carried out through the Zakat Chamber in Sudan, based in Khartoum. Anecdotal evidence suggests that a large number of the poor rely on Zakat. The Zakat Chamber in Sudan reports that 61 percent of all collections are distributed to the poor and needy. The total collection in 2009 was close to SDG 400mn. Other uses than the poor and needy include: the indebted, preachers and faith-based teachers, wayfarer and social development projects. In the latter category, reports of the Zakat Chamber indicate that the health sector is a recipient of Zakat funding, for instance with free drugs dispensed through pharmacies or sponsoring health insurance for poor families. Yet, the exact amounts are unknown.

The PETS asked specifically about the influence of Zakat in the financing of health expenditures in Sudan. Given the prominence of Zakat a relative large impact was to be expected, but in fact the results are somewhat surprising. Total financial contributions on the facilities and localities levels recorded through the PETS amounted to a mere SDG 183,814. Adding the estimated financial value of the in-kind contributions, the total Zakat value in the 6 PETS States reached SDG 241,154. As a comparison, other donor support to the localities in the PETS sample reached SDG 14.9mn. There are several possible explanations to this low contribution of Zakat, among those issues in the data collection. The most likely explanation, however, is that Zakat's role in terms of funding of programs and institutions in Sudan is rather limited. Instead, the large majority of Zakat funding is distributed directly to the beneficiaries. In the case of the health sector, these beneficiaries may be enabled to utilize health services due to the Zakat support. Yet, this indirect effect is not captured through the PETS.

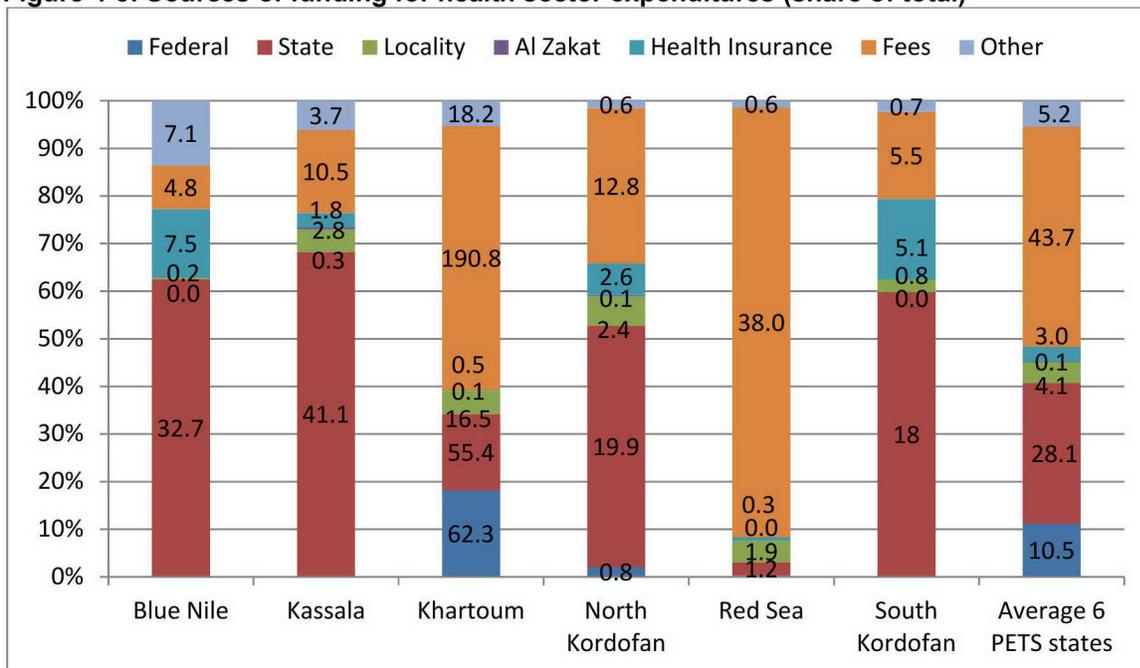
4.23 In Blue Nile and Kassala some private NGO contributions to hospitals constitute an important additional resource ("other" in Table 4-5). In Khartoum, on the other hand, private donations to health centers and direct donor project contributions to hospitals are even higher in monetary terms but of less significance relative to federal, state and locality budgets as well as user fees retained by facilities. With the exception of Blue Nile and to some extent Kassala, NGO contributions are insignificant compared to other sources of finance.

4.24 Combining all the above provides a full account who finances the health sector at different levels of the health system. The main sources of funding for the health sector are federal and state budget allocations as well as fees generated at facility level. There

are two notable exceptions. For Red Sea, transfers of fees are the most significant source of funding. In Red Sea, facilities only retain a small share of the fees collected (12 percent of the fees) as compared to other states (Figure 4-3). For South Kordofan, health insurance contributes a major share of funding combined with state allocations, while fees constitute a smaller share of funding and fees collected are retained at facility level (95 percent of the fees) rather than transferred to locality and state levels. In Khartoum federal budgets and fees constitute the major sources of funding. This is because Khartoum has more and larger hospitals, some which are Federal and specialized hospitals serving all states funded by federal transfers. The hospitals and health center in Khartoum also mobilize a significant amount of additional funding from user fees. In total the data displays significant variation in sources of funding for health sector expenditures between the states. It is reflected by the extent to which fees, federal transfers, state budgets and/or health insurance constitute the main sources of funding.

4.25 **The importance of the fees, which in some states are used as a source of state revenue has to be put into context with the observation in Chapter 3 that non-tax revenue increased across Northern States, while tax revenue remained relatively flat over the period 2000 to 2009** (Figure 3-2). The explanation then was that states over time were deprived of their most lucrative tax instruments (e.g. agriculture tax, sales tax) and thus the federal level has induced the States to search for alternative sources of revenue – in that case non-tax sources. Much more, non-tax sources may not only be seen as a means to compensate for forgone tax revenues but also a stable means to balance the uncertainties around federal transfers. Also, non-tax sources like user fees in health are more readily available to states than federal transfers might be which often come late in the year leaving the states in search for resources to bridge the gaps.

Figure 4-3: Sources of funding for health sector expenditures (share of total)

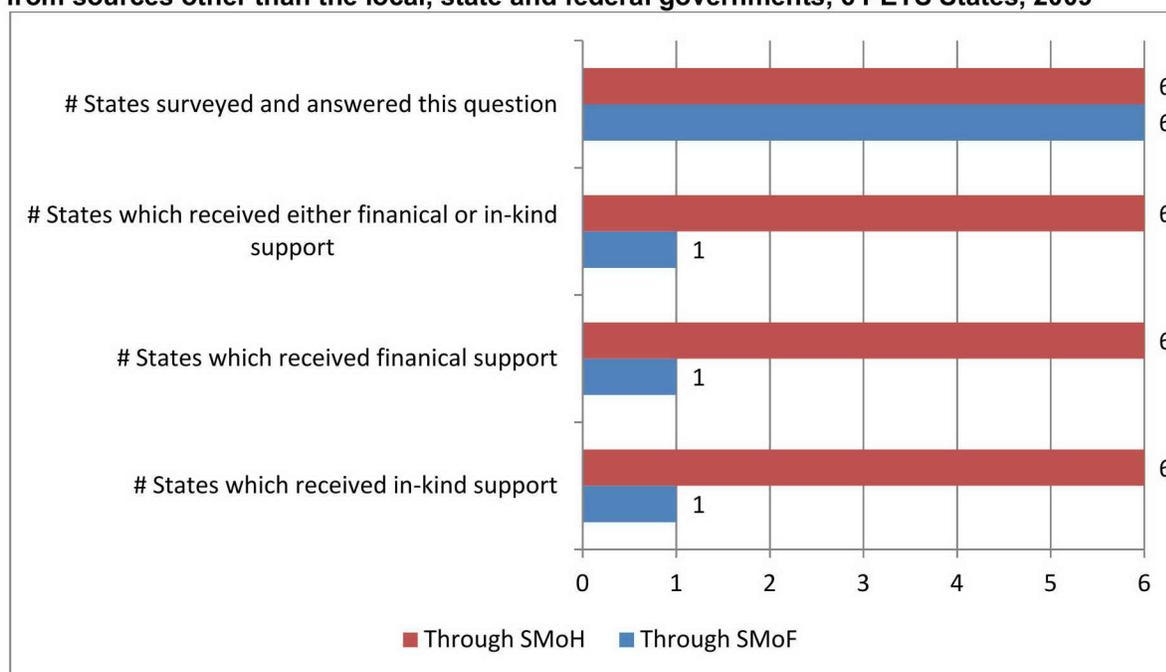


Source: Survey data from all levels.

f. External financing: The footprint of donors

4.26 **External financing provides an important additional source of funding in some states. The PETS found that external financing comes in different ways and on all three levels considered: the state, locality and facility levels.** Donors are both domestic and international. On the State Ministry level external contributions, either financial or in-kind, benefitted all the 6 SMOHs, but appeared only in 1 out of the 6 SMOFs interviewed (Figure 4-4). A similar pattern is visible in that all 6 SMOHs said they benefitted from financial and in-kind contributions, while again only the Kassala SMOF mentioned any such benefit. The PETS also asked about specific values for both kinds of support, but data is very difficult to consolidate in an aggregate view. This comes through the fact that in-kind contributions are not properly recorded in State Ministry accounting systems, which focus on financial accounting. Also, there is a big risk of double counting since SMOF will transfer most of the donor support for health to the SMOH. It is therefore appropriate to assess donor contributions in more detail on the locality and facility levels.

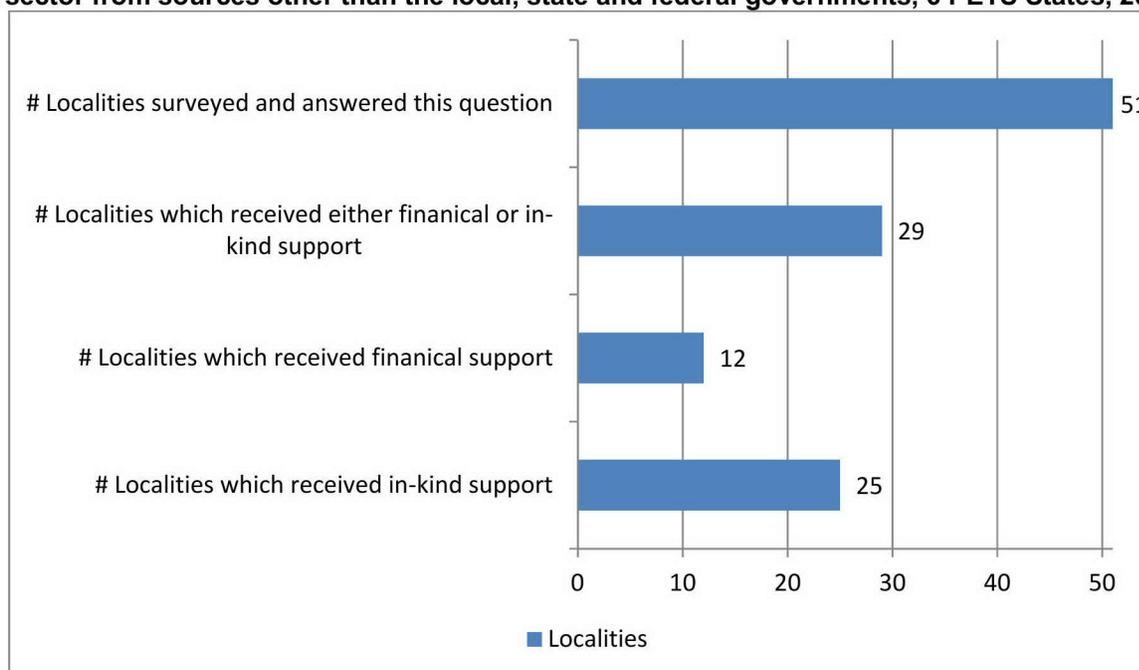
Figure 4-4: Number of states which received financial and/or material support for the health sector from sources other than the local, state and federal governments, 6 PETS States, 2009



Source: Survey data from SMOH and SMOF.

4.27 **On the localities level the PETS analysis shows that 29 out of 51 surveyed localities cite external contributions, either financial or in-kind, as available sources for their health expenditures** (Figure 4-5). 12 of the 29 Localities acknowledged that they received financial contributions; while this means that 41 percent of those localities which acknowledged that they received any support received financial contributions, it also shows that only 24 percent of all localities surveyed benefitted from such financial aid. On the other hand, 25 of the 29 localities responded that they received in-kind contributions, which indicates material support as the preferred channel of aid on the locality level. Still, only 57 percent of all Localities surveyed received it. The data should in any case be treated with caution; in particular as concerns in-kind contributions. This because inputs provided in-kind provided to localities and/or facilities are not procured by them and hence they do not have information on the actual costs.

Figure 4-5: Number of localities which received financial and/or material support for the health sector from sources other than the local, state and federal governments, 6 PETS States, 2009



Source: Survey data from localities.

4.28 **The total value of donor support on the locality level amounted to SDG 14.9mn and is 15 percent of the total health expenditure identified through the PETS.** Respondents on the localities level provided details both about the financial contribution and financial estimates of the in-kind support. Table 4-6 incorporates both kinds of contributions. Localities in Khartoum State did not receive any contributions according to the PETS results. This may be due to the fact that donors tend to focus more on rural and less developed areas of the country. This is confirmed by the fact that those States with more rural areas tend to have higher estimates as displayed in Table 4-6. According to the survey, donors contributed most to North Kordofan within the sample of the 6 PETS States. Overall, the total value of donor support at the locality level amounted to SDG 14.9mn and is 15 percent of the total health expenditure identified through the PETS analysis as presented in Table 4-4, i.e. SDG 102.7mn.

Table 4-6: Top 7 donors to localities (financial and in-kind contribution), 6 PETS States, 2009

'000 SDG	Top 1	Top 2	Top 3	Top 4	Top 5	Top 6	Top 7	Total
Red Sea	0	1	0	0	0	0	0	1
Kassala	50	107	348	4	23	74	1	606
Khartoum	0	0	0	0	0	0	0	0
Blue Nile	2	913	210	600	4	53	0	1,782
North Kordofan	0	1,934	1	0	0	131	0	2,065
South Kordofan	9,500	20	512	0	360	64	0	10,456
Total 6 PETS States	9,552	2,974	1,071	604	387	322	1	14,910

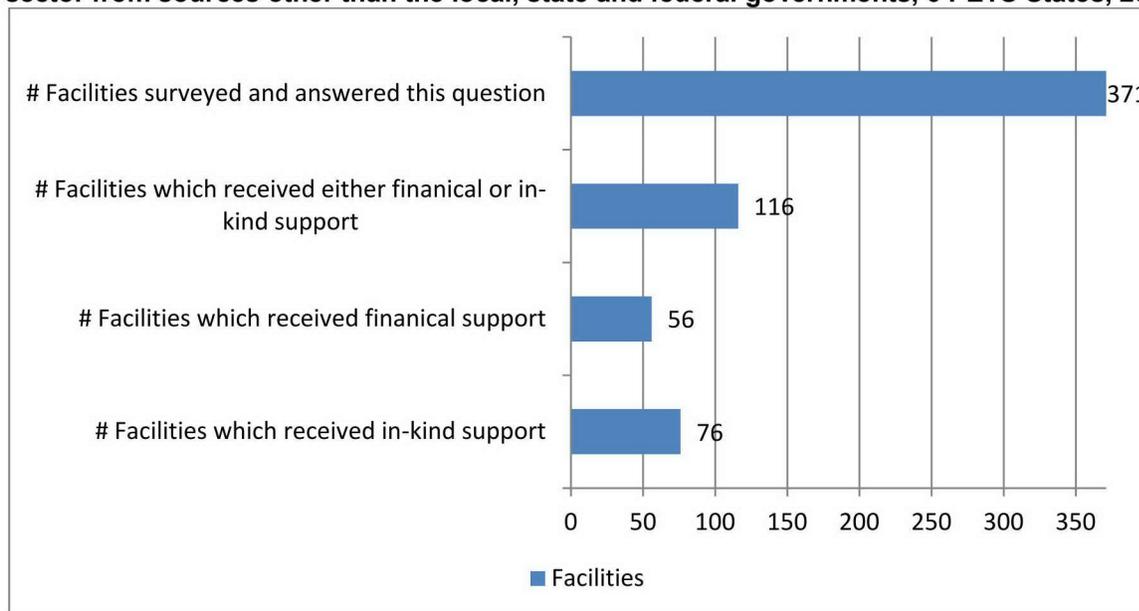
Source: Survey data from localities.

Financial contributions of donors to localities are three times larger than the financial values estimated for the in-kind contributions to localities. This is in contrast to the observation from Figure 4-2 that in-kind contributions are the preferred channel for donor support. But the reason probably is that in-kind contributions are more frequently used by

donors yet financial contributions are larger in size. For instance, the higher value of financial aid as compared to in-kind contributions behind Table 4-6 is largely driven by one very high value assigned to the localities in South Kordofan. Apart from that it is a fact that in all but North and South Kordofan States the estimated in-kind contribution is larger than the financial support.

4.29 Of 371 facilities answering the question about donor support, one third, or 116 facilities, , said that they received donor support (Figure 4-6). Of those, 56 facilities confirmed that they received financial contributions.. As before on the locality level, more facilities mentioned in-kind contributions than financial aid; for the latter it was mentioned by 76 facilities (20 percent of 371 Facilities). This means that 65 percent of those facilities receiving any support received the contributions in-kind.

Figure 4-6: Number of Facilities which received financial and/or material support for the health sector from sources other than the local, state and federal governments, 6 PETS States, 2009



Source: Survey data from facilities.

4.30 On the facilities level, the total value of contributions of SDG 7.8mn represents 8 percent of the overall health expenditure of localities of SDG 102.7mn. Survey respondents provided details for financial values of both financial and in-kind contributions. Overall, both kinds of contributions are relatively equally split with SDG 3.7mn and SDG 4mn, respectively (Table 4-7). The largest financial contribution was recorded for the facilities in Khartoum, which accounted for SDG 2.3mn. At the same time, the highest in-kind contribution was assigned to Blue Nile State, with an estimated total value of SDG 2mn. In contrast to the localities level, were North and South Kordofan received the lion’s share of aid support, on the facilities level both states received a fraction of the support. The total value of contributions of SDG 7.8mn represents 8 percent of the overall health expenditure of localities of SDG 102.7mn.

Table 4-7: Top 5 donors to facilities (financial and in-kind contribution), 6 PETS States, 2009

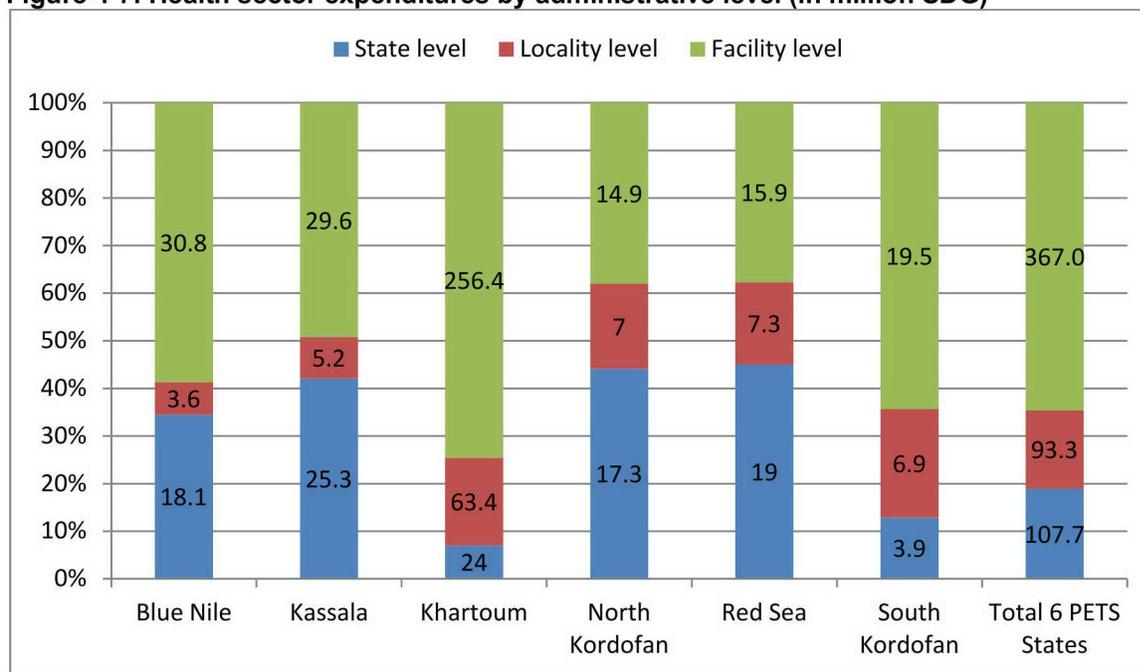
'000 SDG	Top 1	Top 2	Top 3	Top 4	Top 5	Total
Red Sea	72	128	0	0	0	200
Kassala	723	587	123	5	15	1,453
Khartoum	2,255	3	29	0	0	2,287
Blue Nile	260	3,228	35	0	0	3,523
North Kordofan	88	12	0	0	0	100
South Kordofan	204	0	0	0	0	204
Total 6 PETS States	3,602	3,959	187	5	15	7,767

Source: Survey data from facilities.

g. Who spends the allocated funds?

4.31 The total resource flow presented in the previous section is utilized at different levels of the health system and different between the states. The data displays a significant variation between states as to who executes spending for health services. In total for all states 19 percent of total expenditures are executed at state level, 16 percent at locality level and 65 percent at facility level (Figure 4-7). Khartoum and South Kordofan display the highest share of spending executed at facility level (75 percent and 65 percent, respectively) as compared to the others (between 38 and 59 percent).

Figure 4-7: Health sector expenditures by administrative level (in million SDG)



Source: Survey data from all levels.

4.32 A major share of health sector spending in Khartoum is executed at facility level and funded by cash transfers and in-kind contributions from federal, state and locality levels. Fees are to a large extent retained at facility level. A lower share of the resources reaches facility levels in other states, in particular in North Kordofan and Red Sea. The former is a state which from the outset has a low overall per capita resource envelope, the latter as state in which fees at facility level for a large part is transferred to state level. In South Kordofan a

major share is executed at facility since fees are retained at facility levels; however the overall total resource envelope is low compared to other states.

Table 4-8: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
Blue Nile	832,112	21.7	4.4	37.0	63.1
Kassala	1,789,806	14.1	2.9	16.5	33.6
Khartoum	5,274,321	4.6	12.0	48.6	65.2
North Kordofan	2,920,992	5.9	2.4	5.1	13.4
Red Sea	1,396,110	13.6	5.2	11.4	30.2
South Kordofan	1,406,404	2.7	4.9	13.8	21.4
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

4.33 Compared to WHO estimate of minimum spending per person per year of between 35-50 USD needed to provide basic life-saving services, all states display a lower level of expenditure with North Kordofan as low as 5.1 USD.²⁰ On per capita basis, health sector expenditure is above the sample average in the States of Khartoum, Blue Nile and Kassala as reflected by higher level per capita total expenditures and per capita expenditures at facility levels. At the other end is the exceptionally low facility level expenditure in North Kordofan (Table 4-8).

4.34 The above variation in per capita spending can also be explained by what type of facilities and the extent of facility infrastructure available to deliver services to the population in each state. Blue Nile, Red Sea and South Kordofan have more hospitals measured by population per hospital than the other states (Table 4-9). Khartoum and South Kordofan has the highest number of health centers relative to its population. The relative low number of hospitals and health centers per capita in North Kordofan compared to the other states serve to explain the low resource intensity in this state as measured by health sector expenditure per capita.

Table 4-9: Population per facility

State	Hospitals	Health Center	Other
Blue Nile	52,007	18,912	11,245
Kassala	162,710	15,700	5,966
Khartoum	188,369	14,255	64,321
North Kordofan	132,772	32,099	7,831
Red Sea	82,124	27,375	6,810
South Kordofan	74,021	13,654	7,325
Average 6 PETS States	120,529	17,619	11,109

Source: Survey data from SMOH and localities. Population data according to CBS population statistics.

Note: Other is the sum total of dispensaries, primary health centers, dressing stations and others since these classifications appear not be used uniformly between states and localities within the states.

²⁰ At an average exchange rate of SDG per USD of 2.36.

4.35 The above is confirmed by data collected from facilities. Average spending per facility varies by type of facility – a hospital has obviously a much higher level of expenditures than health centers and other primary health care facilities due to the composition and nature of services provided. Primary health care units are usually staffed by community health workers, dressing stations are staffed by a nurse, and dispensaries are headed by a medical assistant.

4.36 While all hospitals provide inpatient services, there is a mix of health centers in which some also provide inpatient services. With a few exceptions lower level facilities only provide outpatient services. The average expenditure per patient by these facilities, however, vary between states likely reflecting levels of service delivery as will be discussed in more detail in Chapter 5.

4.37 A notable difference in structure of expenditures between facilities is found at the tertiary level: Those states with fewer hospitals per capita like North Kordofan and Red Sea also spend less per hospital facility. At the other end, Khartoum has more facilities available but also spends more per facility both for hospitals and health centers (Table 4-10). This can be partly linked to the higher level of resource intensity per patient which is presented in Chapter 5 as a service quality indicator and in the case of Khartoum also because it is a state in which there are Federal hospitals with specialized services serving all states.

Table 4-10: Average spending per facility ('000 SDG)

State	Rural Hospitals	Urban Hospitals	Rural Health Centers	Urban Health Centers	Rural other	Urban Other
Blue Nile	638.1	1,321.9	53.5	203.0	38.2	26.2
Kassala	337.2	2,047.1	82.9	52.6	17.4	4.9
Khartoum	-	6,886.6	158.0	306.1	15.9	10.0
North Kordofan	203.5	1,540.6	61.9	704.4	12.5	12.6
Red Sea	438.2	587.1	61.5	126.7	5.7	10.2
South Kordofan	270.9	1,365.8	42.0	398.4	1.5	15.0
Average 6 PETS States	404.2	3,273.0	71.5	351.4	15.0	14.0

Source: Survey data from facilities.

4.38 The diversified spending levels are also visible at lower facility levels not only between states but for the same type of facilities within a state. Lower level facilities are more homogenous entities with similar staffing and established to cover standardized service areas in terms of population outreach. Accordingly, an allocation system to ensure a minimum level of resource to provide the service should likely be reflected by the same cost per facility. However, the spending levels between the same types of facilities vary significantly between the states as illustrated in Table 4-10. In all states urban hospitals and health center facilities have more resources per facility than rural facilities. This is also the case for other primary level facilities with the exceptions of other primary facilities in Blue Nile and Kassala.

h. Tracking public resources

Public spending reaching facilities

4.39 **This section presents results from analysis of the extent to which public spending from state and locality budgets reaches facility levels.** Then it provides details on the composition of expenditure of these and other resources at the facility level and the extent to which they have resources for non-salary related expenditures like drugs and medicines and other type of expenditures for effective service delivery.

4.40 **State and locality allocations for health are partly utilized at respective level and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level inputs.** According to SMoF and localities data, states and localities charged more than half (54.6 percent) of the total health expenditure for own expenditures with the remaining 45.4 percent of the state and locality health spending charged as expenditures benefitting health facilities, (Table 4-11). These resources account for 48.8 percent of facility level resources inputs. As shown in sections above, the balance is made up first and foremost from user fees, health insurance and, for some hospitals, direct federal transfers.

Table 4-11: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
Red Sea	31.6	10.2	32.2
Kassala	30.6	9.5	31.2
Khartoum	40.0	20.8	52.1
Blue Nile	46.5	18.9	40.7
North Kordofan	13.5	4.4	32.5
South Kordofan	18.3	12.7	69.8
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

4.41 **In States like Red Sea, Kassala and North Kordofan the share of public spending charged for facility level inputs is lower than the average for all states in the sample. For a state like North Kordofan, with a low level of public expenditure per capita, it also means a very low level of public spending per capita that directly benefits service delivery level.** South Kordofan has a low level of public spending per capita but in contrast to other states, a major share of the spending is directly allocated for the benefit of the service provider level – the health facilities. This relative higher allocation at facility level has an impact on the availability of resource inputs and service delivery at facility levels. This will be discussed further in subsequent sections.

4.42 **While Table 4-11 reflects the amounts reaching state and locality levels to benefit service delivery, this can be further qualified with facility level observations.** According to facility level data, what is charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from State and locality levels. It suggests that only a share of expenditures that State and localities claim has been for the benefit of facilities, actually reaches facility levels. Comparing the records by state and localities with data from facilities shows a striking difference: 59.4 percent of what state and localities have charged as facility level expenditures actually reach the facilities (As

displayed in Table 4-12: SDG 8.2 per capita according to facility records compared to SDG 13.8 by state and locality records).

Table 4-12: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of State and Locality level records
Red Sea	10.2	4.9	47.8
Kassala	9.5	6.2	64.9
Khartoum	20.8	12.2	58.6
Blue Nile	18.9	14.1	74.6
North Kordofan	4.4	2.2	50.1
South Kordofan	12.7	7.8	61.5
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

4.43 **The data suggest that what the state and locality level charges as facility level inputs are overstated when compared to facility records of the value of transfers and in-kind contributions that actually reaches them.** Combining the figures of Tables 4-11 and 4-12 shows then that of total per capita public expenditures in the sample states of SDG 30.4, per capita approximately SDG 8.2 (27 percent) appears to be reaching the facilities (Table 4-13). Arriving at these numbers is the result of using facility level data as an estimate of what effectively reaches the service providers of total public expenditure on health compared to what state and locality records have accounted for as reaching facilities.

Table 4-13: Summary: Public resources at the facility level (SDG per capita and percent)

	Total State and Locality expenditure	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and Locality level records
Red Sea	31.6	10.2	4.9	15.5
Kassala	30.6	9.5	6.2	20.3
Khartoum	40.0	20.8	12.2	30.5
Blue Nile	46.5	18.9	14.1	30.3
North Kordofan	13.5	4.4	2.2	16.3
South Kordofan	18.3	12.7	7.8	42.6
Average 6 PETS States	30.4	13.8	8.2	27.0

Source: Survey data from facilities, SMoF and localities.

4.44 **There may be several explanations for this observation. However, the differences between the two sources are significant and suggest that not the full value accounted for by State and Locality levels as expenditures benefitting facilities actually reaches the facilities.** It may partly be due to difference in estimation of the value of inputs by facilities as compared to the actual cost charged to state and/or locality accounts. It may also partly be explained by statistical error in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample i.e. facility data are understated. However, the differences between the two sources are significant and suggest that not the full value accounted for by State and Locality levels actually reaches the facilities.

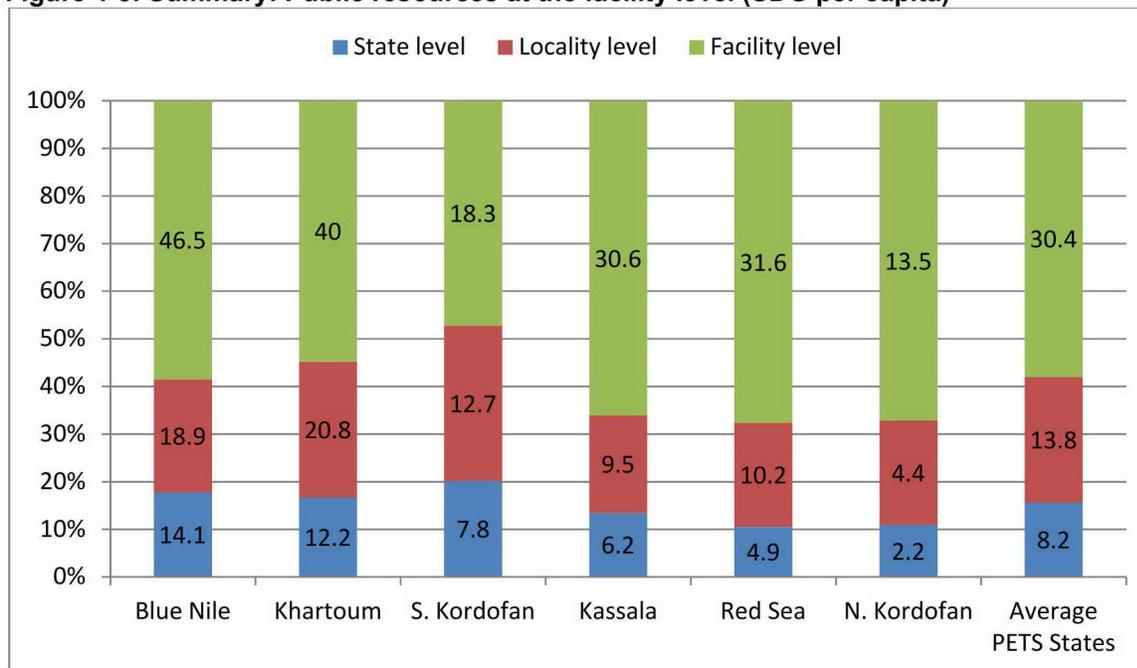
4.45 Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis are based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. In some cases a facility had records of contributions from a locality but the locality did not have records of having made these contributions to the facility. In other cases facilities had no records of specific in-kind contributions from respective source although they claimed to have received in-kind contributions and could provide estimate of total contribution (but not by source). It suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

4.46 Recognizing the challenges related to the monitoring of facility level performance and utilization of inputs, the main factors behind the observed deviations in Tables 4-12 and 4-13 are: The fact that not all personnel paid by state and/or locality actually serve at the facility - this is subject to discussion of salary and non-salary expenditures below. Another significant element is that not the full amount of medicines and medical supplies procured by state and locality levels to be used at facility levels are visible in the PETS records. This may be due to inputs not reaching facilities and/or due to inputs not appearing in the stock of facility level inputs according to facility records. Thus, improving the monitoring of facility performance and internal controls related to salary payments and the stock/utilization of facility level supplies would close parts of this gap. Regarding salary discrepancies, this would require a review of the payroll to ensure that personnel not serving at the facility should not appear on the payroll or the payroll would have to be updated to reflect changes in where personnel is serving.²¹ Regarding supplies, this would require periodic visits to facilities to verify stock and utilization of medical supplies and to ensuring that the facilities keep their records current.

4.47 In summary, and on average, SDG 30.4 is spent for the health care of each Sudanese citizen. Of these state/locality health resources 45.4 percent (SDG 13.8) are allocated to health facilities. Of the SDG 13.8, only 59.4 percent (SDG 8.2) actually reach the facilities according to facility level records. It means that of the total state/locality health resources for 30.4 SDG per capita, only 27 percent (SDG 8.2) actually reach the facilities. This is illustrated in Figure 4-8. It is important to point out that this analysis focuses on state level and below and does not consider federal level health expenditures, which make up the sizable share of one-third of overall funding for health (see also Table 4-1 above).

²¹ There may be cases where a person is recorded on the payroll as serving in a specific facility but has been transferred to another facility with the payroll having not been updated to reflect the change.

Figure 4-8: Summary: Public resources at the facility level (SDG per capita)



Source: Survey data from all levels.

Salaries and non-salary expenditures

4.48 **The wage bill constitute on average 38 percent of hospital expenditures, 40 percent of expenditures at health centers and 94 percent of expenditures at other primary facilities.** For the latter group of facilities there are very limited resources available for medicines and medical consumables; and if available, they are to a large extent financed from fees.

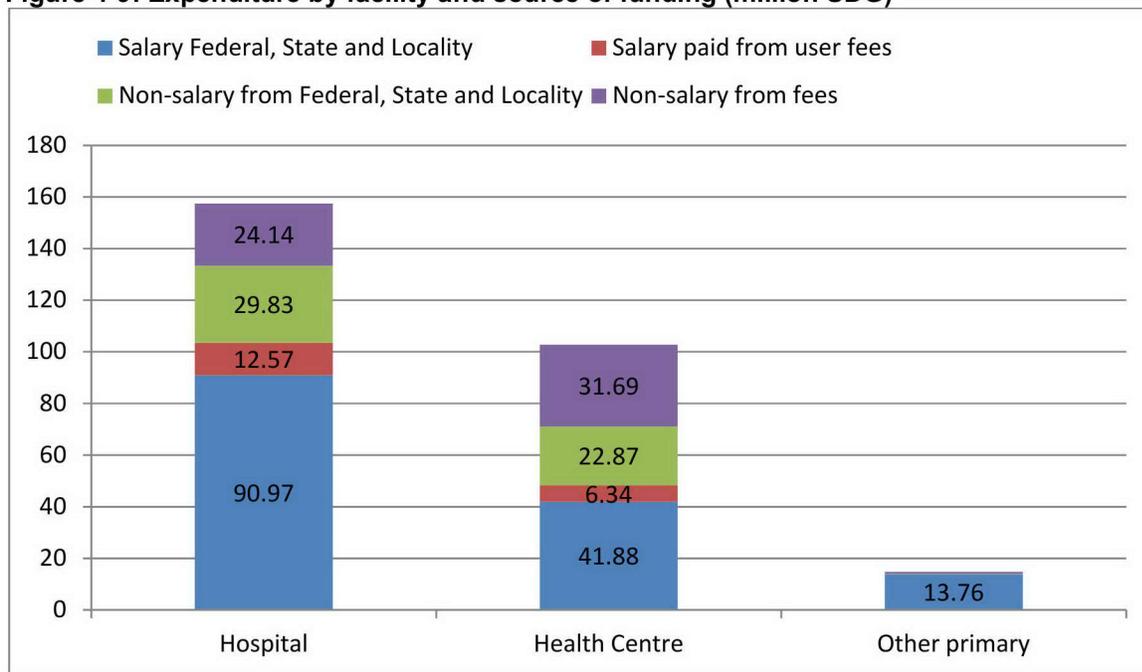
4.49 **The ability to generate additional funding from user fees determines to a large extent the ability to supplement both staffing and non-wage inputs (like medicines and other medical supplies).** Federal, state and locality contributions are the main sources of funding for hospital expenditures both for salaries and none-salary inputs. For health centers fees constitute an equally important source of funding as federal, state and locality budgets for non-salary inputs. Other primary facilities rely entirely on state and locality budgets for salaries which constitute 94 percent of their total expenditures. The remaining 6 percent is spent on medicines and other medical consumables of which 80 percent are funded from fees²² (Figure 4-9).

4.50 **Cash transfers from federal, state and locality levels are important sources of funding for non-salary inputs,** i.e. both types of facilities appear to enjoy some level of discretion in the execution of their budgets. The extent to which inputs at facility level are

²² Details of expenditures at facility level were not available to enable distribution of expenditures according to the standard classification applied for state and locality accounts (e.g. wage, goods and services, development and capital). For instance, at facility level data were provided on different types of inputs like medicines, medical equipment and rehabilitation of buildings but there was no information available to identify if they had been charged as regular goods/services or capital investments or charged partly or in total to “development projects” in state and locality accounts. Accordingly, facility level “data” cannot be directly compared to state and locality classification of expenditures.

procured by cash transfers or provided as in-kind contributions vary between the states; this reflects a difference in level of devolution in authority over spending. The extent to which facilities can retain fees also determines to what extent they can mobilize additional cash to pay for salaries and non-salary inputs. These issues are discussed in more detail in Chapter 6.

Figure 4-9: Expenditure by facility and source of funding (million SDG)

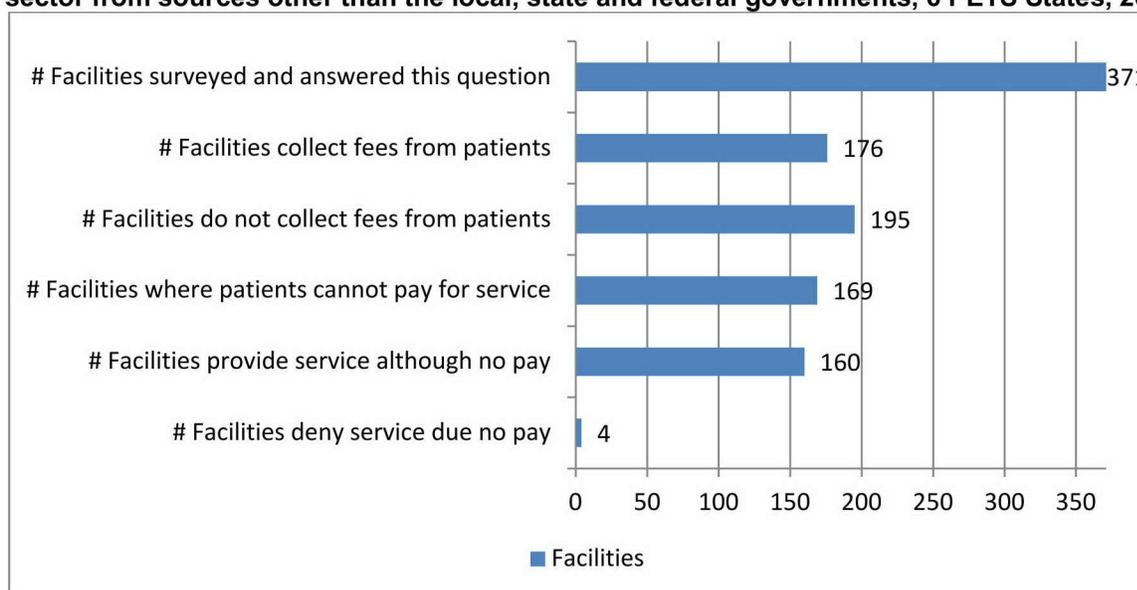


Source: Survey data from facilities.

The importance of fees to supplement facility resource inputs

4.51 **Fees constitute a major source of funding for facilities to supplement state and locality payments for their salaries and non-salary inputs and account on average for 32.1 percent of facility level inputs. However, the contributions to facility level funding vary significantly between states and type of facilities.** Of the 371 respondent facilities, 176, or 47 percent actually collected user fees, while the remainder of 195 facilities did not ask for fees (Figure 4-10). Survey responses also showed that 169 facilities say that patients actually could not pay for services (45 percent of responding facilities). In response, there were a total of 160 facilities which provided services even when the patient could not pay (43 percent of responding facilities); this does not mean, however, that the facility necessarily foregoes all of the services, as small part of fee claims will be forwarded to the community and/or others to fill the gaps. Only 4 facilities (1 percent) claim that they had cases where they did not service a patient due to the inability to pay fees.

Figure 4-10: Number of facilities which received financial and/or material support for the health sector from sources other than the local, state and federal governments, 6 PETS States, 2009

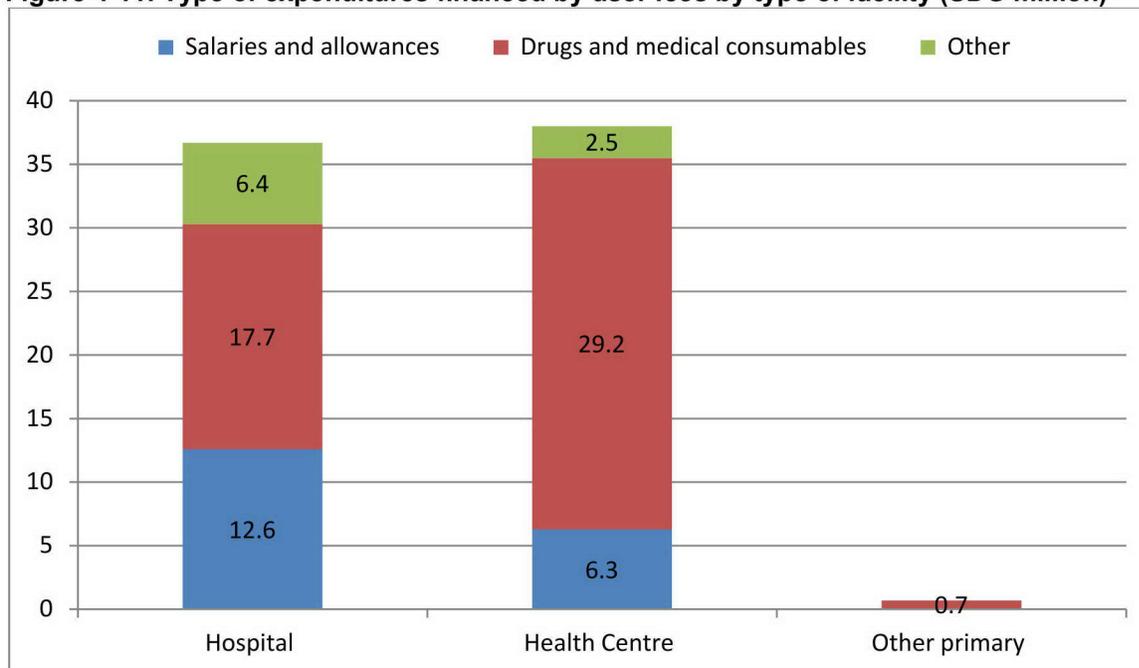


Source: Survey data from facilities.

4.52 **Fees are an important source of financing particularly for hospitals and health centers, while other primary level facilities generate additional funding from user fees only to a limited extent.** (Figure 4-11). In the case of hospitals and health centers, user fees are a significant source of funding for salaries and allowances for medical. In some cases, fees are accumulated over time as a source of funding for procurement of medical equipment. At other primary levels, user fees are first and foremost used for financing of drugs provided to patients.

4.53 **At hospitals 73 percent of the user fees used for salaries are used as bonuses and allowances adding to the regular salaries paid from federal and state budgets.** In contrast, at health centers, 93 percent of the user fees for salaries are used for paying of additional staff over and above what is being paid by state and locality budgets or for extra shifts and consultations. It remains unclear how the use of fees is governed and how transparent the levying mechanism are at the health facility level.

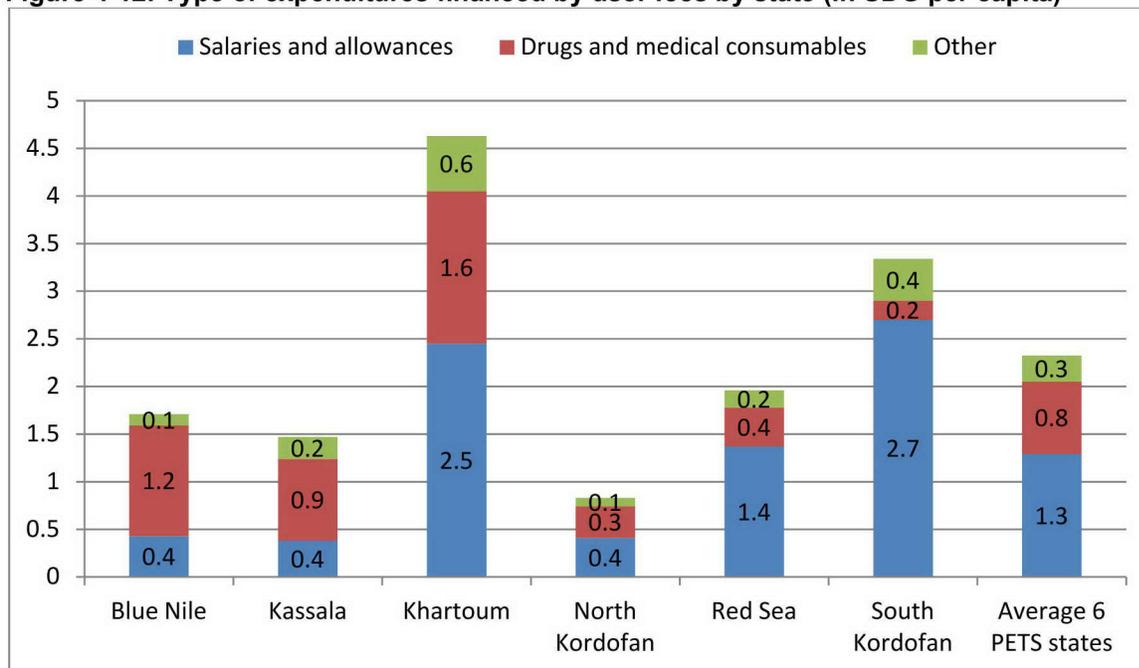
Figure 4-11: Type of expenditures financed by user fees by type of facility (SDG million)



Source: Survey data from facilities.

4.54 User fees are a source of income for facilities across states and account on average for 2.4 SDG per capita. But there are notable differences in the importance and application of user fees between states. User fees are a major source of income for facilities in states like Khartoum and South Kordofan both in total and on per capita basis (Figure 4-12). In South Kordofan, facilities retain all fees collected which make it a major source of funding for the facilities. On average, 54.2 percent of user fees in PETS States are used for salaries and allowances (1.3 SDG per capita), 33.3 percent for drugs and medical consumables (0.8 SDG per capita) and the remainder for other expenses (0.3 SDG per capita). A relative larger share of the fees in Khartoum and South Kordofan are used for salaries and allowances. This may partly be explained by the fact that these states also have less vacant positions compared to other states. Fees are an important source of funding for medicines and medical consumables in Kassala, Blue Nile and Khartoum. At the other end, in North Kordofan, user fees are to a lesser extent applied but at the same time this is a state with lowest overall public spending per capita and lowest share of State spending reaching facility levels.

Figure 4-12: Type of expenditures financed by user fees by state (in SDG per capita)



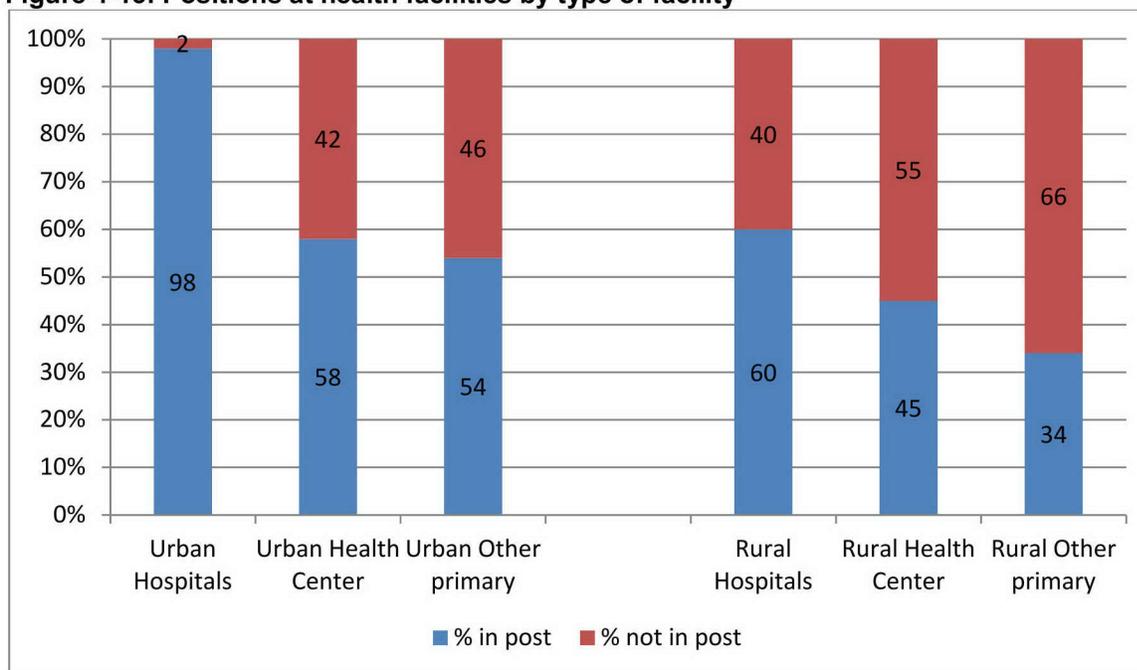
Source: Survey data from facilities.

The wage bill

4.55 Salaries and allowances constitute a major cost of inputs for service delivery and are major inputs to ensure quality of services. While state and locality levels finance a large share of the wage bill for several facilities, it was shown above that fees constitute a significant supplemental source of funding to pay for additional staff and bonuses/allowances for staff on regular payroll. The facilities provided data on the number of approved positions, the number actually filled and the number present at the facility during the survey (Figure 4-13). The data provide some insights into what extent the funding of this particular input translates into service delivery.

4.56 For the facilities, a large number of the approved positions remain vacant. Approximately 29 percent of the approved positions in hospitals were vacant, 53 percent of the approved posts were vacant at the health centers, and as many as 62 percent of the posts were vacant at primary levels.

Figure 4-13: Positions at health facilities by type of facility



Source: Survey data from facilities.

4.57 **The level of vacancies for different types of facilities is not only correlated to the type of facility but to its location. While positions at urban hospitals are generally filled, there is a significant share of vacant positions at rural hospitals.** Primary level facilities display a similar pattern of employment and even more so for the facilities located in rural areas. For primary level facilities in rural areas there are more posts vacant than actually filled which indicate a significant challenge in outreach of services to rural areas. Vacancies are observed among all professional categories in the sample although they are most prominent among pharmacists as reflected by Table 4-14.

Table 4-14: Positions at health facilities by professional category

	% in post
Doctors	64
Nurses	79
Medical assistant	75
Lab/technicians	55
Pharmacists	17
Assistant Pharmacists	43
Health Visitors	54
Health Assistant	56
Other medical/health	35
Admin personnel	79
Workers	76

Source: Survey data from facilities.

4.58 **To fill all vacant positions an additional requirement of approximately SDG 80.2mn would be needed.** Data on actual cost for positions filled can be used as an estimate for the

additional budgetary resources required if all these vacant positions were to be filled. The estimated average annual cost for each professional category according to survey data was used.

4.59 **Data was also obtained on positions filled but not serving at the facility due to different reasons for absence. Of the total number of positions filled, 708 were absent from the workplace at the time of the survey equivalent to 20.7 percent.** Data on staff present/absent from their positions was obtained for 3,428 employees at the facilities covering all professional categories. The reasons for absence were obtained for all those not present and are displayed in Table 4-15. The main reason for absenteeism at all facilities, and in particular hospitals and health centers, were due to work conducted in shifts. Other reasons for absence were staff working at another health facility, i.e. they have extra shifts at other facilities in addition to the facility holding their post. Some were also absent because of their regular annual leave.

Table 4-15: Staff absence by reason of absence (percent of total)

Facility	Sick leave	In training	Official mission	Approved absence	Annual leave	Not shift	Shift at other place	Not approved absence	Retrieve salary	Other	Total
Hospital	4	7	4	10	5	66	2	0	0	0	100
Health center	6	6	5	11	6	45	8	3	7	3	100
Other primary	3	8	6	24	3	28	10	7	3	6	100

Source: Survey data from facilities.

Note: Numbers are aggregates using weights reflecting number of facilities in sample compared to total number of facilities in the sample states.

4.60 **44.3 percent of the total number of persons absent – or 9.2 percent of the total workforce – did not serve in their positions** due to reasons like sick leave, in training, on mission, approved absence, away to retrieve their salary as well as unapproved absence or other reasons. In monetary terms the cost of this absenteeism can be estimated at SDG 9.9 million.²³ While number of persons absent compared to number of staff is highest for lower level primary facilities (approximately 17 percent), it is highest at health centers in terms of number of persons and share of total cost. It is higher in rural than urban facilities which adds to the challenge of not only employing staff in rural areas by also ensuring that they serve at the facility.

Goods and Services

4.61 **Data was obtained from facilities on their non-salary inputs. The facilities acquire their inputs by either procuring them with cash transfers received (from federal, state, locality levels or from fees), or as in-kind contributions (charged to federal, state, locality budgets, or as donations from others).** Details on the type of non-salary expenditures at facility levels were obtained specifically for in-kind contributions. Data were obtained for drugs and medicines, medical consumables, medical equipment, food, building maintenance, vehicles

²³ Calculated as a weighted average of the cost of the different professional categories.

maintenance, fuels and oil as well as training and other supplies. Details on the application of cash contributions were not available for other than user fees.

4.62 About two thirds of the hospitals receive in-kind contributions from federal, state and/or locality levels. In North and South Kordofan 88 percent of hospitals receive in-kind contributions to supplement cash transfers and fee income to procure their inputs while at the other end in Kassala State only 44 percent of the hospitals receive in-kind contributions i.e. the majority of hospitals rely on cash transfers and fee income to finance their inputs (Table 4-16).

Table 4-16: Number of hospitals receiving in-kind contributions from federal, state, locality levels

	No in-kind	In-kind	Total	Percent receiving in-kind
Blue Nile	6	10	16	63 %
Kassala	13	10	23	44 %
Khartoum	22	37	59	63 %
North Kordofan	4	25	29	88 %
Red Sea	9	14	23	63 %
South Kordofan	2	11	13	88 %
Total 6 PETS States	55	108	163	66 %

Source: Survey data from facilities.

4.63 About two thirds of the health centers receive in-kind contributions from federal, state and/or locality levels. However, the extent to which health centers receive in-kind contributions vary between the states and in some states like South Kordofan, only 19 percent of the health centers reported to have received contributions in-kind. This is the state in which state and locality levels charge a high share of expenditures as facility level contributions and with contributions provided as cash rather than in-kind. It is also the state in which facilities retain the fees collected and were total state and locality contributions reaching facilities is the highest among the states in the sample (Table 4-17).

Table 4-17: Number of health centers receiving in-kind contributions from federal, state, locality levels

	No in-kind	In-kind	Total	Percent receiving in-kind
Blue Nile	14	23	36	63 %
Kassala	47	39	86	45 %
Khartoum	52	318	370	86 %
North Kordofan	36	36	72	50 %
Red Sea	32	23	55	41 %
South Kordofan	81	19	100	19 %
Total 6 PETS States	262	457	719	64 %

Source: Survey data from facilities.

4.64 59 percent of other primary facilities (basic health units) reported to have received in-kind contributions; however, the variation between states is more significant than for other facilities. In Red Sea and South Kordofan, a third of BHUs receive in-kind contributions, in Blue Nile 71 percent and in Khartoum all BHUs reported to have received in-kind contributions. While Hospitals and Health Centers generate a substantial amount of fees to finance salary and non-salary inputs, BHUs to a very limited extent have cash transfers and fees as a source to finance their inputs i.e. BHUs rely on state and locality in-kind contributions to a much larger extent. It means that the 41 percent of the facilities that did not receive any in-kind contributions likely have been severely constrained in providing adequate services (Table 4-18).

Table 4-18: Number of basic health units receiving in-kind contributions from federal, state, locality levels

	No in-kind	In-kind	Total	Percent receiving in-kind
Blue Nile	12	30	42	71 %
Kassala	51	51	102	50 %
Khartoum	-	129	129	100 %
North Kordofan	72	108	180	60 %
Red Sea	87	42	129	33 %
South Kordofan	47	22	69	32 %
Total 6 PETS States	269	382	651	59 %

Source: Survey data from facilities.

4.65 **Medicines constitute the major share of in-kind contributions for all facilities. Also some major rehabilitation and new investments in hospitals financed from federal and state budgets have contributed to overall resource allocation for hospitals.** Other primary facilities rely almost entirely fees for their non-salary inputs of which medicines are the major input. The following presents an estimated aggregate value of these direct inputs at facility level (Table 4-19).

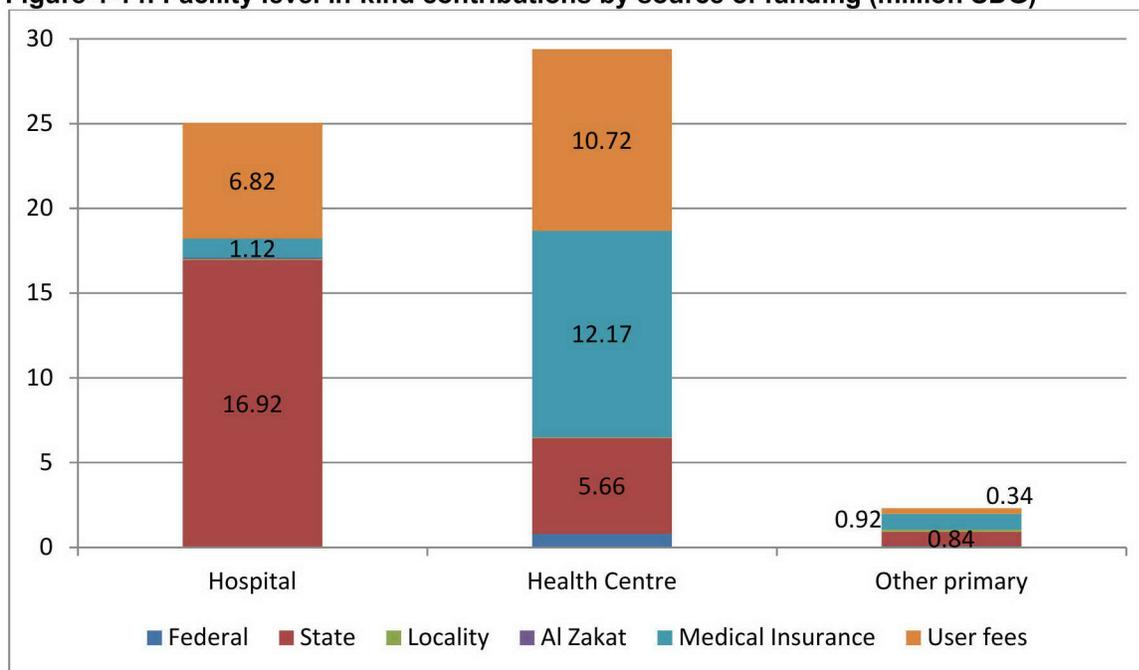
Table 4-19: Facility level in-kind contributions by type of facility and expenditure (in SDG million)

Facility	Drugs and medicines	Medical consumables	Medical Equipment	Food	Building Maintenance	Vehicle maintenance	Fuels and oil	Other material inputs
Hospital	5.71	1.08	6.16	0.34	11.40	0.07	0.02	0.15
Health Centre	18.62	7.53	1.21	0.01	1.53	0.02	0.17	0.26
Other primary	1.83	0.19	0.21	-	0.01	-	0.01	0.07

Source: Survey data from facilities.

4.66 **The type of in-kind contributions vary between states and for the different facilities. In Khartoum and Kassala, in addition to medical supplies, a major share of State budget allocations have been spent on investments in and rehabilitation of facilities.** While the State budgets are the main source of funding of the inputs, for health centers in some of the states (Blue Nile and South Kordofan) medical insurance and user fees are major sources of funding and in particular for medicines (Figure 4-14).

Figure 4-14: Facility level in-kind contributions by source of funding (million SDG)

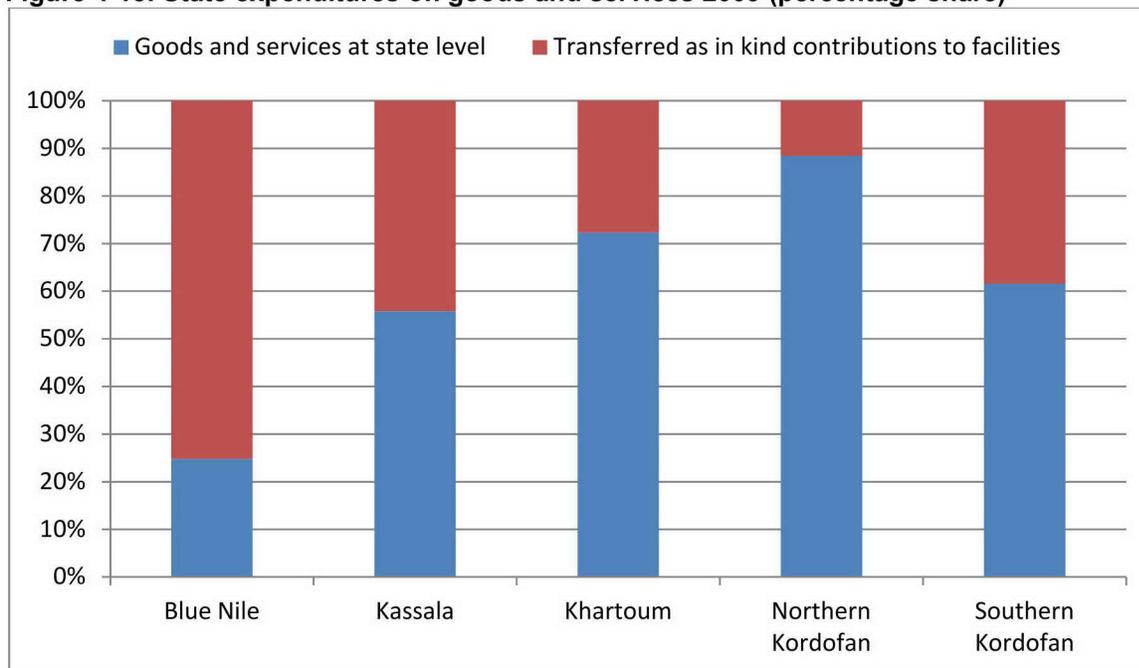


Source: Survey data from facilities.

4.67 **Comparing facility level aggregate expenditures financed from State level budgets with total non-salary expenditures according to State accounts can serve as a proxy as to what share of State level allocation for non-salary expenditures are utilized** (Figure 4-15) at facility levels. This is done under the assumption that all in-kind contributions to these facilities are charged as Goods and Services while cash contributions spend on non-salary inputs are charged as transfers.

4.68 **In some states a major share of State charges for goods and services are for in-kind contributions provided to facilities (Blue Nile with approximately 75 percent).** In others, like North Kordofan the State charges to goods and services that reach facilities in the form of in-kind contributions for non-salary inputs are only 12 percent. North Kordofan is a state with an overall low level of spending as measured in per capita terms while at the same time a smaller share of total health sector expenditure is for the front line service providers.

Figure 4-15: State expenditures on goods and services 2009 (percentage share)



Source: Survey data from facilities.

i. In retrospect: The effective financing of the health sector

4.69 **The effective financing of the health sector is a function of the overall resource envelope for the state, the share allocated to health services and the extent to which these resources reach the health facilities.** The survey data shows significant disparities in funding of health sector services between states. The disparities are significant as concerns the available resource envelope for health, the amounts from the different sources of funding and the extent to which available resources reach facilities.

4.70 **While Blue Nile spent approximately SDG 41 per capita, Southern and North Kordofan spent between SDG 10-13 per capita. The difference is first and foremost due to difference in overall resource envelope per capita.** Blue Nile receives higher amounts of federal transfers on a per capita basis as compared to the other states which more than compensates for the lower state revenue mobilization i.e. the overall resource envelope as well as resource envelope for the health sector on per capita basis are higher than all the other states.

4.71 **On average, the PETS States mobilize about one-third of state income on per capita basis through own revenues. Those States which mobilize even higher levels of own resources, for instance Red Sea and Khartoum, those state own revenue from taxes and other sources of revenue compensates for the relative lower level of federal transfers.** This is particular true when comparing to states like Blue Nile. North Kordofan on the other hand has a low level of state revenue and federal transfers per capita. This impacts on the level of health expenditure per capita despite that health expenditure as share of total state expenditure is above average for the states in the sample.

4.72 **According to data from the different administrative levels (state, locality and facility) 19 percent of total expenditures are executed at state level, 16 percent at locality**

level and 65 percent at facility level. Again there are significant variations between the states. Of public spending on health from state and locality level budgets, 45.4 percent are charged as spending on facility level inputs. These resources account for 48.8 percent of total facility level resources inputs. However, comparing the state and locality records with facility data, only 59.4 percent of these resources appear to actually reach the facilities; state and locality accounts overstate the amount of spending that actually contributes to service delivery at facility levels. In sum, of the total per capita public expenditures in the sample states (SDG 30.4 per capita), approximately 27 percent actually reaches the facilities (SDG 8.2 per capita).

4.73 A major share of the resource inputs at facility levels are funded from user fees rather than state and locality budgets. User fees account for 32.1 percent of facility level inputs. In some states a major share of the user fees are transferred to the SMoF and constitute a major source of revenue compared to state level spending on health. In Red Sea, Blue Nile and Khartoum a significant share of the expenditures are funded by user fees rather than federal transfers and regular tax revenue. This might be a response to the deprivation of the most lucrative tax incomes over the last decade, which were taken on by the federal level (e.g. agriculture tax and sales tax). Much more, in search for a stable source of income to balance uncertainties around federal transfers, states may have had an incentive to look at user fees in health as alternative. In South Kordofan, however, facilities retain all the fees collected. The analysis clearly shows a disparity between states in application of facility level fees and the extent to which facilities can retain fees to supplement state and locality cash transfers and in-kind contributions.

4.74 In general, facilities in rural areas have fewer resources available to service their area of operation as compared to urban areas. Added to this is the high number of unfilled positions in facilities across all states, in particular at primary levels and for facilities located in rural areas.

4.75 There is an opportunity to consider changes in how resources are allocated across all levels of administration. This comes at the background of low level of public expenditure on health as measured by spending per capita, the modest share of public resources actually reaching facility levels in many of the states combined with significant disparities in the allocation of public resources and policies for application of user fees. The huge diversity in sources of funding also makes it challenging to allocate resources to the facility level and at the same time ensure an equal level of services for all communities.

5. CHAPTER FIVE: PUBLIC EXPENDITURE AND SERVICE DELIVERY

a. Measuring service delivery outreach and resource use

5.1 The different types of facilities extend inpatient and outpatient services. Survey data was collected on both categories of services. The following analysis presents 'spending per capita' as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. The total expenditure per patient serviced at facility levels ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy has limitations which do not allow to make stringent conclusions on the level and quality of service delivery. But it gives an indication of the availability of inputs to treat a patient taking in to consideration that on average all facilities have limited resources available; in such a situation there is an apparent tradeoff between outreach (number of patients that can be served) and level of treatment (measured by amount of inputs used for each patient).

5.2 Data on type of diseases treated as well as stock and consumption of various medical inputs were collected from facilities. However, the quality of the records varied significantly among the facilities and in many cases no information was obtained. The extent to which resource intensity is correlated with the availability of medical personnel, drugs, medical consumables and other facility inputs could not be used as a proxy to further qualify the level of service for different type of facilities; and to measure the extent to which there is a correlation between resource intensity and available inputs.

b. Hospitals

5.3 Survey data on the number of inpatients and outpatients serviced by hospitals shows that hospitals in Khartoum service a higher number of patients compared to hospitals in the other states, with Blue Nile as an exception. Higher spending per capita on hospitals in Khartoum and Blue Nile translates into higher numbers of inpatient and outpatient services relative to their population as compared to other states. Hospitals in both states have much higher resource intensities than elsewhere – measured as expenditure per capita. In terms of Khartoum it also reflects on the fact that several hospitals in Khartoum are federal hospitals serving the patients from all states.

Table 5-1: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Out-patients	% of population	In-patients	% of population
Blue Nile	22.4	221,104	26.6	54,162	5.7
Kassala	6.6	144,308	8.1	35,563	1.8
Khartoum	37.6	797,936	15.1	464,692	7.7
North Kordofan	2.2	224,067	7.7	31,688	1.0
Red Sea	5.8	180,799	13.0	29,391	2.1
South Kordofan	14.5	210,551	15.0	64,260	4.6
Total 6 PETS States	19.3	1,778,765	13.1	679,757	5.5

Source: Survey data from facilities.

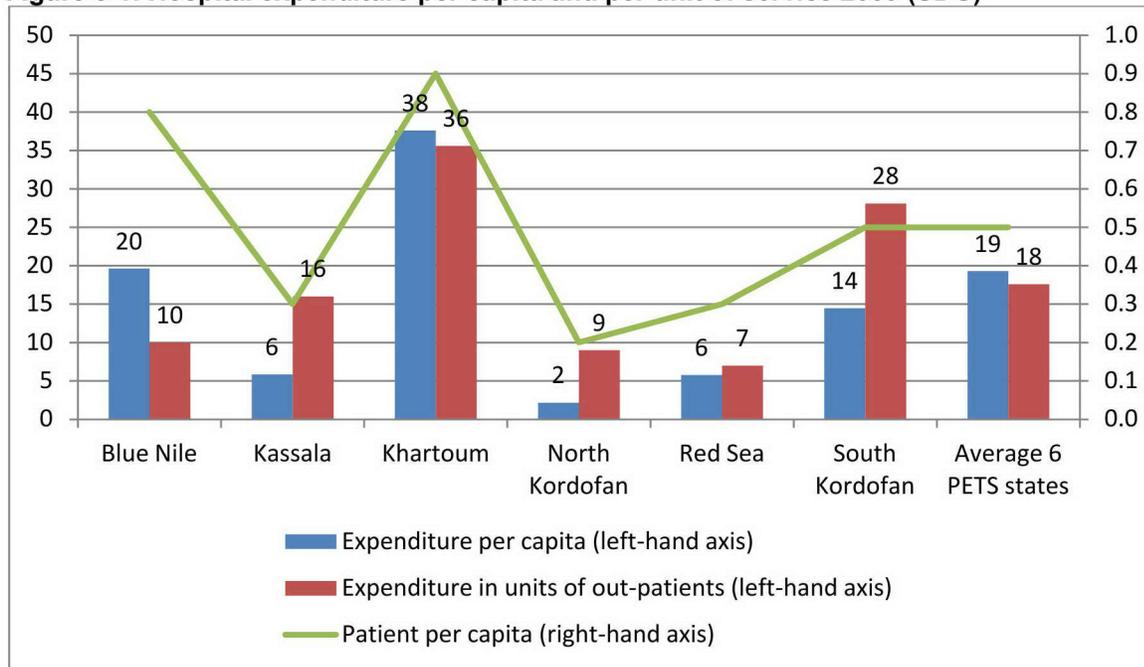
5.4 At the other end, Kassala and North Kordofan have fewest hospitals and lowest numbers of in- and outpatients serviced relative to their population. Hospitals in both

states have lower resource intensity as measured by expenditure per capita compared to the other states. Hospitals in Red Sea have relatively low levels of spending on hospitals per capita. While in Red Sea the number of outpatients serviced relative to the population is close to the average of all hospitals, the facilities provide less inpatients services compared to other states. On the other hand, South Kordofan has a low level of per capita expenditure but a major share of the resources are utilized at facility level; this contributes to a higher level of per capita spending on hospitals compared to other states.

5.5 Overall resource intensities and a relative share of resources allocated to facility levels impact on the number of patients serviced by hospitals; this is a conclusion of the above analysis presented in Table 5-1. Using linear regression²⁴ to assess the cost distribution between inpatient and outpatient services indicates that the cost of each inpatient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one inpatient day with average stay in a hospital for an inpatient of 4.5 days.

5.6 Using the above cost ratio the overall cost in units of outpatients can be estimated as a proxy to cost by unit of service. This is displayed in Figure 5-1 below. It is done under the assumption that service intensity measured as cost per unit of service delivered can be used as a proxy to quality of service. Patients per capita (with inpatients converted to units of outpatients), cost per unit of outpatient and overall expenditure per capita can serve to illustrate the differences in resource allocation at facility level and how it impacts on resource intensity (resource use per patient).

Figure 5-1: Hospital expenditure per capita and per unit of service 2009 (SDG)



Source: Survey data from facilities.

5.7 Khartoum has the highest hospital expenditure per capita which translates into the highest outreach of services as measured by unit of outpatients per capita but also the highest resource intensity per patient serviced (Figure 5-1). This is likely because it

²⁴ Assuming the cost ratio between in- and outpatients is proportional.

includes patients from other states serviced at federal hospitals with specialized services located in Khartoum, i.e. it includes also patients from other states. In contrast, Blue Nile with relative high overall spending per capita has a high level of outreach as measured by patient per capita but with far lower resource intensity per patient, i.e. the facilities reaches a relative high share of the population relative to other states but with far less resources for each patient.

5.8 Kassala has low per capita spending on hospitals and limited outreach of services, but a higher resource intensity measured by unit of service than many of the other states. South Kordofan with low per capita spending on health has relative high outreach of hospital services and even higher resource intensity per patient than the average for all states in total. The above can partly be explained by resource intensity being correlated with the extent to which facilities not only collect but also can retain user fees, i.e. user fees as a supplemental source of finance for facilities allow them to employ more staff and procure medical inputs which likely will provide better quality services.

5.9 Considering the above results on hospital services across PETS States, it seems evident that a prioritization of resource allocations to facility levels could generate a significant increase in inpatient and outpatient services at the hospitals. Several states have an opportunity to increase service levels both in outreach and quality if comparing them to those states that display relatively higher outreach and ‘quality of service’ (resource use per patient serviced). This would require allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with significant increases in none-wage inputs like medicines and medical consumables. As an illustration, Red Sea and South Kordofan service the same size of population. The poverty headcount is higher in South Kordofan but per capita resource envelope for the state is lower. However, their resource allocation to hospitals as measured by the spending per facility and number of persons being serviced are higher and so is the overall spending per person receiving the service (“getting more for less money” compared to other states).

5.10 While several states allow facilities to retain user fees to employ staff and supplement budgets for medical consumables others do not. In the state of Red Sea the major share of facility level fees are transferred to the state by the SMoF collecting fees at facility levels. In South Kordofan on the other hand, facilities retain the fees they generate from service delivery allowing them higher levels of resource input by employing more staff and acquire other inputs with a subsequent higher level of utilization of the infrastructure invested in.

c. Health Centers

5.11 Health centers are the second layer of service providers. In all states except Khartoum the health centers provide inpatient services. In South Kordofan approximately 30 percent of all inpatient services in the state are provided by the health centers (Table 5-2).

Table 5-2: Spending on Health Centers and number of patients serviced

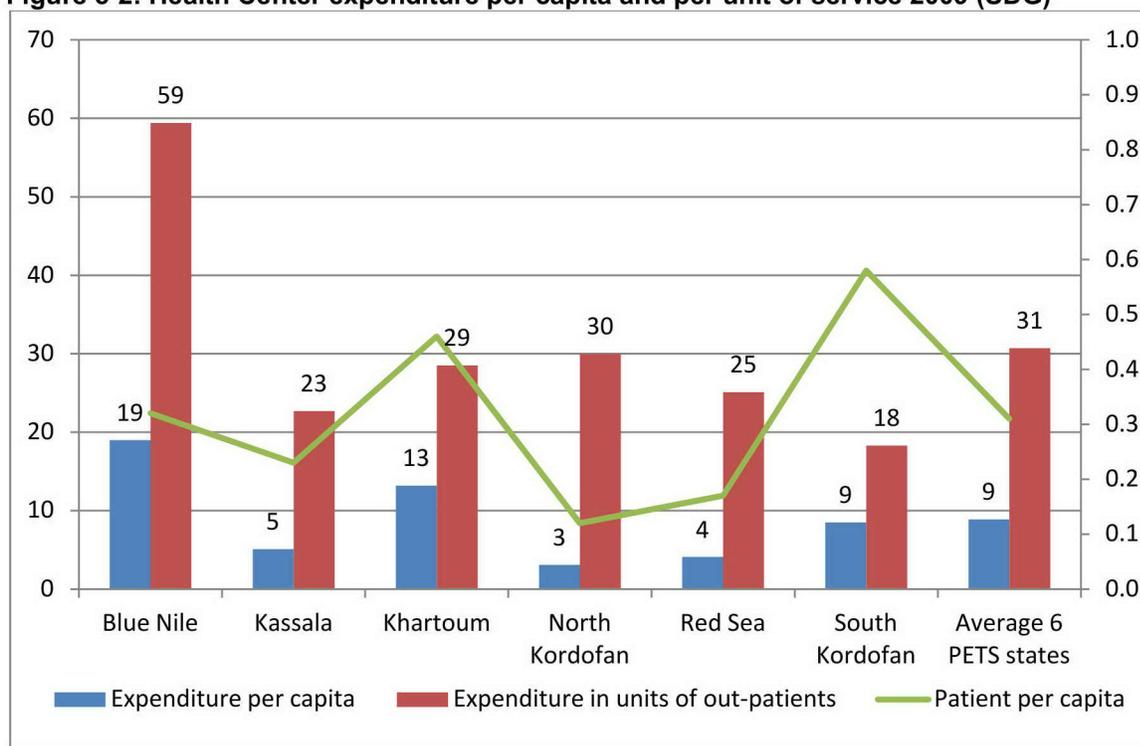
State	Spending per capita (SDG)	Out-patients	% of population	In-patients	% of population
Blue Nile	19.0	248,697	29.9	2,431	0.3
Kassala	5.1	401,233	22.4	378	0.0
Khartoum	13.2	2,435,177	46.2	-	0.0
North Kordofan	3.1	271,193	9.3	8,015	0.3

Red Sea	4.1	220,884	15.8	1,818	0.1
South Kordofan	8.5	529,033	37.6	32,323	2.3
Total 6 PETS States	8.9	4,106,217	30.1	44,965	0.3

Source: Survey data from facilities.

5.12 **The level of service and expenditure between states for health centers show a similar pattern as those of hospitals.** The same states with relative high level of spending on hospitals and with more in- and outpatients services relative to their population compared to the other states also display higher level of service delivery and spending on health centers. By extending inpatient services at health center levels, South Kordofan achieves almost the same level of this type of service as Khartoum were inpatient services are only provided by hospitals. Using linear regression to assess the cost distribution between inpatient and outpatient services for health centers indicate that the cost of each inpatient is about 1.8 times the cost of an outpatient. Using this ratio the estimated average cost per service unit is as presented in Figure 5-2.

Figure 5-2: Health Center expenditure per capita and per unit of service 2009 (SDG)



Source: Survey data from facilities.

5.13 **All states with the exception of Khartoum and South Kordofan display higher resource intensity per patient for health centers than for their hospitals.** This can partly be explained by health centers in these states also provide inpatient services and attempt to perform many of the services that in Khartoum are referred to hospitals. Furthermore, some of the hospitals in Khartoum are referral hospitals for patients also from other states (federal hospitals). For Blue Nile in particular, health centers appears to be prioritized relative to hospitals. On average, each health center is allocated more resources and with higher resource intensity per patient which assumes a higher quality of service than the average for the states in

total. In South Kordofan health centers are among the main service providing facilities with significant outreach although limited resources available per patient being serviced.

d. Other primary facilities

5.14 While in Khartoum health centers dominate as primary level facilities, lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are still key frontline service providers in many of the other states. There are more BHUs per capita than health centers and their relative outreach are on average the same as health centers (Table 5-3).

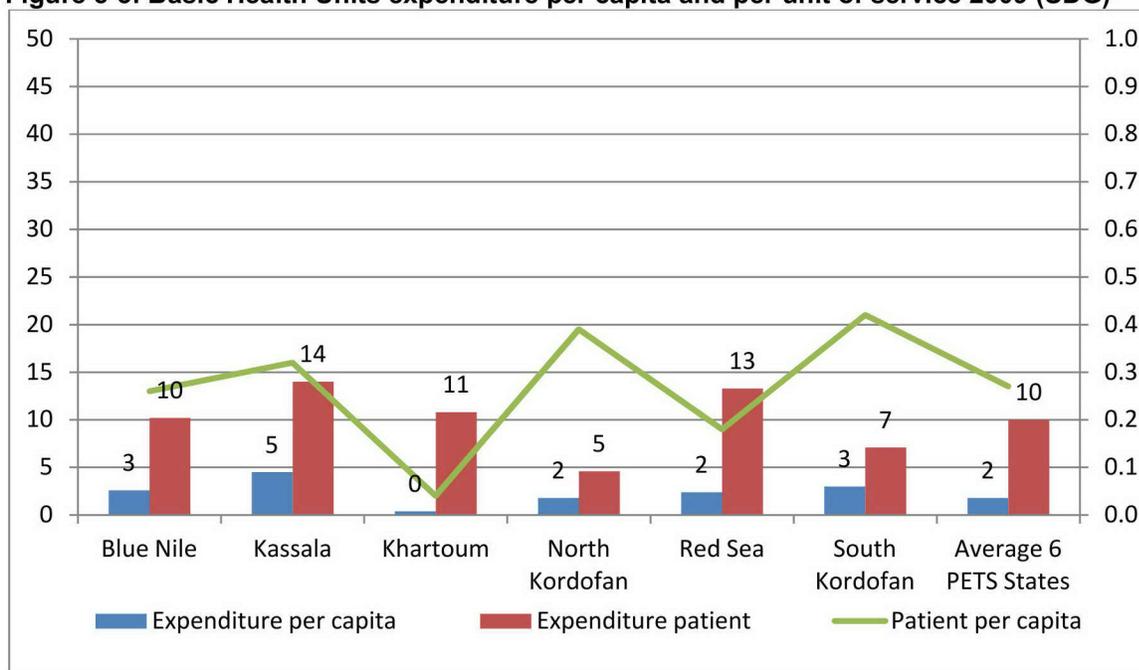
Table 5-3: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Out-patients	% of population	In-patients	% of population
Blue Nile	2.6	213,675	25.7	-	0.0
Kassala	4.5	570,392	31.9	-	0.0
Khartoum	0.4	194,231	3.7	-	0.0
North Kordofan	1.8	1,065,409	36.5	9,402	0.3
Red Sea	2.4	251,672	18.0	-	0.0
South Kordofan	3.0	596,108	42.4	-	0.0
Total 6 PETS States	1.8	2,891,486	21.2	9,402	0.1

Source: Survey data from facilities.

5.15 In Kassala as well as South and North Kordofan the BHUs are major service providers as measured by the number of patients serviced relative to the total population and in North Kordofan the BHUs are the main service providers. Some of the BHUs in North Kordofan also provide inpatient services while inpatient services are only provided by health centers and hospitals in other states (Figure 5-3). Even with the importance of BHUs in North Kordofan, the resource provided per patient is lowest among the PETS states. In contrast, Kassala with similar outreach of services by BHUs have the highest resource intensity per patient.

Figure 5-3: Basic Health Units expenditure per capita and per unit of service 2009 (SDG)



Source: Survey data from facilities.

e. Observations across types of facilities

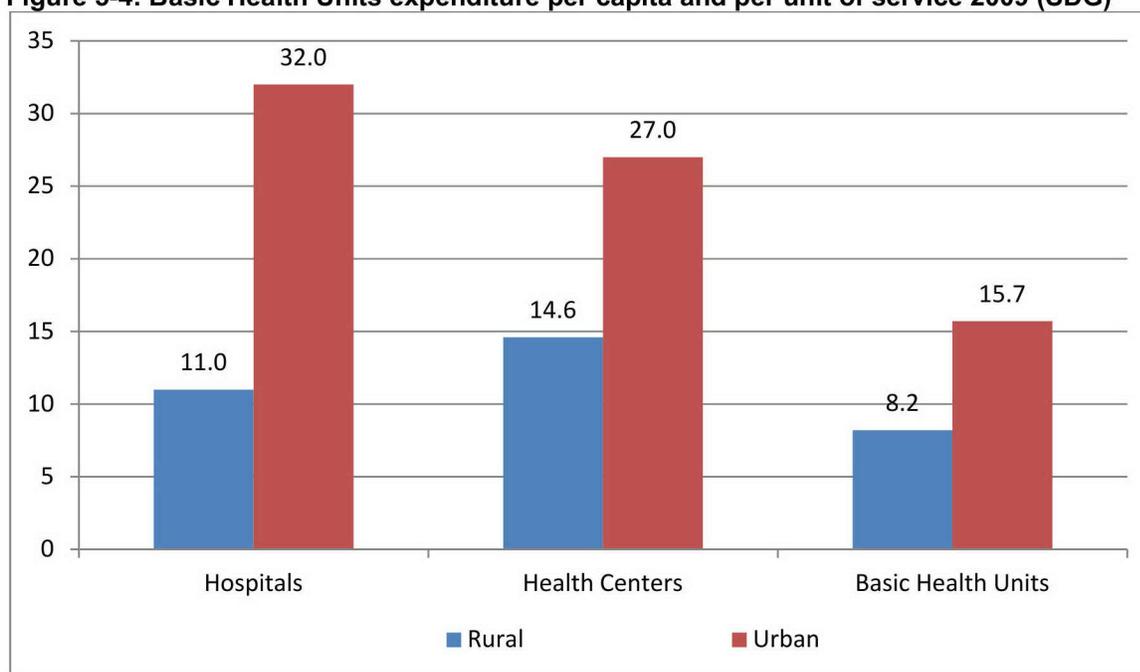
5.16 The above observations show a diversified outreach of services and resource intensity per patient between states. At the one end, services in Khartoum are to a larger extent provided through hospitals and health centers. It has the highest health expenditure per capita. With 75 percent of total expenditure executed at facility levels it has higher resource intensity per patient than the other states. The level of service delivery from hospitals and higher resource intensity per patient in Khartoum, can partly be explained by the fact that Federal hospitals serving all states are located in this state

5.17 At the other end is North Kordofan with the lowest spending on health per capita and only 42 percent reaching facility level. Outreach of health services is dominated by BHUs. With overall lower outreach of services from hospitals and health centers and lower resource intensity per patient from these facilities the quality of services is likely the lowest among the states in the sample. For this state not only would a reallocation between service levels be required, it will also require a substantial increase in the overall resource envelope including investments in hospitals and health centers to expand service delivery from these facilities if to reach the levels of other states.²⁵

²⁵ Significant federal investments are currently undertaken to raise the service level in North Kordofan.

f. Performance of services in urban and rural areas

Figure 5-4: Basic Health Units expenditure per capita and per unit of service 2009 (SDG)



Source: Survey data from facilities.

5.18 The survey data indicate that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities (Figure 5-4). Resource intensity as measured by expenditure per patient shows higher levels in urban areas. However, of facilities servicing rural communities, the resource intensity per patient is higher for health centers than hospitals. This is because several of the states with a major share of their population located in rural communities prioritize health service delivery through health centers which provide both outpatient and inpatient services.

g. Impact of public spending on health sector performance

5.19 Based on this analysis, which has many limitations due to the unavailability of quality defining data, the extent to which public resources reach facility levels impacts on outreach and thereby quality of services. Using the simplified presentation in this chapter, higher outreach service can be reached by increasing allocation of resources to facility level. An increased share of public resources allocated to facilities will potentially generate increase in resource intensities and quality of services for existing facilities. However, for some states like North Kordofan the overall resource envelope would need to increase, including significant investments in new facilities, if it were to reach the levels of resource intensity of other states.

5.20 Those states with facilities, and in particular hospitals, that retain a large share of the user fees show higher resource intensities per patient than other states even in cases where the overall level of spending per patient is the same. This may imply that user fees managed at facility levels are more effectively applied at facility level for each SG spent than public resources. For hospitals and to a certain degree, health centers, user fees are used

to supplement shortfalls in public spending to fill vacant positions as well as other inputs. For other primary level facilities they are first and foremost as supplemental source of funding for drugs and medical consumables.

6. CHAPTER SIX: CONCLUSION

a. Evolution of Northern States Budgets

6.1 **Total revenue in Sudan's Northern States, classified into transfers from the federal government and own revenue have increased substantially over the last decade and at the same time states have ever increased their dependency on transfers to meet their responsibilities for basic service delivery.** Northern States' own revenue mobilization showed modest growth, especially over the CPA interim period. The weak own revenue mobilization efforts can be attributed to a number of factors and comes despite the fact that the INC of 2005 grants governments of Northern States the right to legislate for raising revenue collection through a variety of local taxes and charges for services provided by the state. But in fact, the low level of revenue produced by taxes levied by the state governments is a consequence of their narrow tax base and the fact that most of the productive and buoyant sources of tax revenue (e.g. income tax, value added tax, customs) have been assigned to the federal government.

6.2 **Weak budget credibility is a serious challenge for development transfers to sub-national governments. And development transfers are highly vulnerable to the revenue volatility on the federal level, which translates into volatilities in lower administrative levels.** In the wake of the global financial crisis, for instance, where revenues fell on the federal level, the budget execution rate of development transfers plummeted from 72 percent to 64 percent and to 56 percent over the period 2008 to 2010. Over the same time, the GoNU revenue budget execution rate fell from 117 percent to 80 percent, respectively. This under-performance in the budget execution, which was already highlighted in the PER (World Bank 2007), remains a major obstacle to improving social spending and channeling capital expenditures to priority areas.

6.3 **To increase predictability active expenditure management is needed on the federal and state levels.** The low execution on federal development transfers has significant implications for the budget planning and execution of the states. It undermines state fiscal space to maintain basic infrastructure spending and to undertake vital development projects. In the absence of predictable flows of resources to the states, state development execution is equally jeopardized. But to maintain or improve services delivery at the state and local levels, states require predictable flows of resources given that most states are heavily dependent on federal transfers.

6.4 **Federal transfers to the Northern states are discretionary in the sense that while the CPA commits to decentralization and pro-poor development, there are no fully enforced and simple formulas and neither are they enshrined into the INC.** Likewise, monitoring and institutional arrangements to ensure fair transfers are insufficient. The lack of transparency leads to a great degree of unpredictability from a state perspective. In an effort to increase transparency and fairness in the allocation of funds to the Northern States, a high level Fiscal and Financial Allocation and Monitoring Commission (FFAMC) was formed in 2005. But in reality, the FFAMC was not functioning sufficiently due to a series of institutional problems.

6.5 **Northern States' expenditures have increased significantly over the past decade. The aggregate Northern States' expenditure per capita has grown by over five times since 2000.** At the background of rising aggregate expenditures across all Northern States, health expenditures have grown proportionally in total terms. Increases in health sector spending compare favorably to other sectors, such as education. Spending on the latter

decreased relative to overall spending. It comes at this background that the choice of the health sector for this study is particularly appropriate since spending on health is relatively high within Sudan, while health outcomes remain modest somewhat indicating a significant level of inefficiencies in the financing of the sector.

6.6 Comparing per capita overall expenditure of Northern States with poverty rates observed in states shows that there is an opportunity to refocus expenditure to those states with higher poverty rates. Khartoum, River Nile and Northern are the three states with the highest average per capita expenditure of Northern States between 2000 and 2009. At the same time they have among the lowest poverty levels. Then there are states such as North Kordofan, White Nile, and South, North and West Darfur, which have very low levels of expenditure – particularly development expenditure – and the highest poverty rates. Developments of health expenditures and poverty rates confirm this imbalance.

b. Tracking resources in the health sector

6.7 Utilizing the actual information available from the PETS questionnaires, the study showed significant disparities in funding of health sector services between states. State allocations to health sector are a function of the overall resource envelope for the state, and the extent to which these resources reach the health facilities. The disparities are significant as concerns the available resource envelope for health, sources of funding and the level to which available resources reach facilities. Blue Nile spent approximately 41 SDG per capita the one end while at the other, South and North Kordofan spent between 10 - 13 SDG per capita. Khartoum and Southern Kordofan display the highest share of spending executed at facility level (83 percent and 92 percent respectively) as compared to the others (between 35 percent and 59 percent).

6.8 There is also a wide variation across states of total resource flows and their utilization at different levels of the health system. In total for all states 19 percent of total expenditures are executed at state level, 16 percent at locality level and 65 percent at facility level. Khartoum and South Kordofan display the highest share of spending executed at facility level (75 percent and 65 percent, respectively) as compared to the others (between 38 and 59 percent).

6.9 Looking at public expenditure only, state and locality allocations for health are partly utilized at the respective levels and partly transferred to lower levels of which some are transferred or spent for facility level inputs. Data provided by SMoF and localities suggest that of total public spending from state and locality budgets on health, 45.4 percent reaches facility levels. These resources account for 48.8 percent of facility level resources inputs.

6.10 But according to facility level data only 59.4 percent of the total states and locality allocation actually reaches the facilities. This result is obtained by comparing the records by state and localities as showing transferred to facilities with data from facilities of what they actually have received.

6.11 Comparing survey results across countries is prone to a variety of methodical data problems and therefore often time not appropriate. This is the more so since this Sudan PETS represents de facto a state level PETS within a federal system rather than a national PETS often found in other countries. Table 6-1 nevertheless gives a few examples of other countries' studies on the health sector to put the magnitude into perspective. In Sudan,

what is often called “leakage” appears to be around 40 percent and is observed in the linkage between state/locality levels and the facility level. It includes both non-wage and wage expenditures.

Table 6-1: Cross-country comparison: Share of resources intended but not received at front line

Country	Survey Year	Intended for but not received at front line: “Leakage”	Observation
Tanzania	1999	Estimated at 41%	Leakage appears at the district level Salaries less prone to diversion
Ghana	2000	Estimated at 80% for non-wage expenditure Estimated at 20% for salaries	Leakage mainly between central government and district offices when public expenditure transferred into in-kind transfers
Mozambique	2002	Evidence of leakage of drugs, but no firm estimate	Unreliable data at district and provincial level make assessment difficult
Chad	2004	Less than 1% of non-wage budget allocated to regions reach local health centers	Highest rate of leakage observed in the most remote area of the country Large proportion of leakage observed between central government and regional delegation during procurement
Morocco	2011	Forthcoming	Forthcoming

Source: PETS-QSD in Sub-Saharan Africa: A Stocktaking Study, World Bank (Gauthier, 2006).

6.12 A major share of the resource inputs at facility levels are funded from user fees rather than state and locality budgets. User fees account for 32.1 percent of facility level inputs. In some states a major share of the user fees are transferred to the SMoF and constitute a major source of revenue compared to state level spending on health. In Red Sea, Blue Nile and Khartoum a significant share of the expenditures are funded by user fees rather than federal transfers and regular tax revenue. This might be a response to the deprivation of the most lucrative tax incomes over the last decade, which were taken on by the federal level (e.g. agriculture tax and sales tax). Much more, in search for a stable source of income to balance uncertainties around federal transfers, states may have had an incentive to look at user fees in health as alternative. In South Kordofan, however, facilities retain all the fees collected. The analysis clearly shows a disparity between states in application of facility level fees and the extent to which facilities can retain fees to supplement state and locality cash transfers and in-kind contributions.

6.13 At facilities, a large number of the approved positions remain vacant with as many as 62 percent of the posts vacant at primary levels. Vacancy rates vary across professional categories with higher vacancy rates for higher skilled jobs. At the same time, the level of vacancies for different types of facilities is not only correlated to the type of facility but to its location. While positions at urban hospitals are generally filled, there is a significant share of vacant positions at rural hospitals. Primary level facilities display a similar pattern of employment and even more so for the facilities located in rural areas. For

primary level facilities in rural areas there are more posts vacant than actually filled which indicate a significant challenge in outreach of services to rural areas.

6.14 The study obtained data on positions filled but not serving at the facility due to different reasons for absence. 20.7 percent of the total positions filled showed absence from the workplace at the time of the survey. 44.3 percent of this total number of persons absent did not serve in their positions due to reasons like sick leave, in training, on mission, approved absence, away to retrieve their salary as well as unapproved absence or other reasons. This makes 9.2 percent of the overall workforce being absent from their positions at the time of survey. Table 6-2 gives some examples of absenteeism in the health sectors of other countries. This ranges from 5.6 percent in Cameroon (2003) to 10 percent in Chad (2004) and 37 percent in Uganda (1996).

6.15 Records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. For instance, tracking of individual contributions for medicines, medical supplies, etc. was not possible. In some cases a facility had records of contributions from a locality but the locality did not have records of having made these contributions to the facility. In other cases facilities had no records of specific in-kind contributions from respective source although they claimed to have received in-kind contributions and could provide estimate of total contribution (but not by source).

Table 6-2: Cross-country comparison: Absenteeism

Country	Survey Year	Absenteeism	Observations
Uganda	1996	<ul style="list-style-type: none"> Estimated at 37% 	Government action to improve situation Findings disseminated through mass media: signal to local governments Transparency and local accountability measures Follow-up surveys in education sector
Mozambique	2002	<ul style="list-style-type: none"> Estimated at 19% 	N.A.
Cameroon	2003	<ul style="list-style-type: none"> Estimated at 5.6% 	N.A.
Chad	2004	<ul style="list-style-type: none"> Overall, estimated at 10% Estimated at 17% of doctors and qualified personnel in public clinics; estimated at 33% in non-profit clinics Higher levels in urban areas 	Higher absenteeism in urban areas could be explained by greater alternative opportunities for the medical personnel
Morocco	2011	<ul style="list-style-type: none"> Forthcoming study 	Forthcoming study

Source: PETS-QSD in Sub-Saharan Africa: A Stocktaking Study, World Bank (Gauthier, 2006).

6.16 More insightful than the comparisons of actual levels of leakage and absenteeism levels in Tables 6-1 and 6-2 are the policy responses that countries have undertaken to

address the findings. Uganda stands out with its policy responses in 1996. First, the central government decided to disseminate the findings through mass media as a signal to local governments and a way to raise the awareness of the citizen. Second, the authorities implemented a series of transparency enhancing and local accountability measures to allow continuing monitoring over time. Third, it was agreed to have follow-up surveys to track progress.

c. Public expenditure and service delivery

6.17 The different types of facilities extend inpatient and outpatient services. Survey data was collected on both categories of services. The analysis presented ‘spending per capita’ as an indicator of overall resource availability, the number of patients compared to population to measure ‘outreach of services’ and ‘resources intensity’ (i.e. resource per patient) as a proxy to quality of service for different type of facilities. This proxy has serious limitations which do not allow to draw stringent conclusions on the level of service delivery.

6.18 While data on type of diseases treated as well as stock and consumption of various medical inputs were collected from facilities, the quality of the records varied significantly among the facilities and in many cases no information was obtained. Thus, the extent to which resource intensity is correlated with the availability of medical personnel, drugs, medical consumables and other facility inputs could not be used as a proxy to further qualify the level of service for different type of facilities; and to measure the extent to which there is a correlation between resource intensity and available inputs.

6.19 The work showed significant disparity in outreach and resource intensity per patient, the measure of service quality. At the one end, services in Khartoum are to a larger extent provided through hospitals and health centers. It has the highest health expenditure per capita. With 75 percent of total expenditure executed at facility levels it has higher resource intensity per patient than the other states. At the other end is North Kordofan with the lowest spending on health per capita and only 42 percent reaching facility level.

6.20 Survey data also indicates that there is a wide variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities. Resource intensity as measured by expenditure per patient shows higher levels in urban areas. However, of facilities servicing rural communities, the resource intensity per patient is higher for health centers than hospitals. This is because several of the states with a major share of their population located in rural communities prioritize health service delivery through health centers which provide both outpatient and inpatient services.

6.21 Based on this analysis, which has many limitations due to the unavailability of quality defining data, the extent to which public resources reach facility levels impacts on outreach and thereby quality of services. Using the simplified presentation in this chapter, higher outreach service can be reached by increasing allocation of resources to facility level. An increased share of public resources allocated to facilities will potentially generate significant increase in resource intensities and quality of services for existing facilities. But the extent to which resources actually reach facilities is not only a question of changes in state and locality budget allocations but also the extent to which the state and locality levels ensure that these resources actually reach facility levels. The observations from the survey suggest that there is a significant scope to improve systems for monitoring cash transfers and in-kind contributions intended for facility levels. .

6.22 Those states with facilities, and in particular hospitals, that retain a large share of the user fees show higher resource intensities per patient than other states even in cases where the overall level of spending per patient is the same. This may imply that user fees managed at facility levels are more effectively applied at facility level for each SG spent than public resources. For hospitals and to a certain degree, health centers, user fees are used to supplement shortfalls in public spending to fill vacant positions as well as other inputs. For other primary level facilities they are first and foremost as supplemental source of funding for drugs and medical consumables.

d. Policy discussion

6.23 There are significant gaps in the delivery of facility inputs from state and locality levels compared to what effectively reaches facility levels. To address this the management and monitoring of inputs provided by state and locality levels to facilities needs to be strengthened as well as the overall management of resources at facility levels. This call for strengthened public financial management (PFM) capacities at all administrative levels is consistent with previous recommendations in the PER (2007) and the CIFA (2010). In fact, the CIFA developed, together with the authorities, a comprehensive PFM Action Plan; this PETS underlines the urgency to timely address this action plan. This PETS also provides further rationale to the ongoing fiscal dialogue between the Bank and the authorities, which ultimately aims to increase the efficiency of the public investments in Sudan based on a transparent and rules-based management system.

6.24 Another step to better public financial management (PFM) could come from the current process of implementing the comprehensive Government Resource Planning (GRP) system in a project carried out in the FMoFNE with Ramco Corporation. The currently proposed system is planned to be based on the GFS standard, and being rolled-out within the FMoFNE (to be followed by other federal ministries and agencies). The system seems to be able to integrate state level ministries and data. Based on an – recommended to be carried out – independent review of the system’s capabilities, the momentum could be triggered to make an informed decision on whether a full-rollout across both federal and state levels could be envisaged. Since there are apparently multiple efforts under way at the state level to computerize state systems, this may indeed provide an opportunity to combine efforts and furthering state-level computerization through a rollout of a GRP system across federal and state levels.

6.25 There is scope and a clear need to improve monitoring of in-kind contributions to monitor resource flows in a more comprehensive manner thereby to ensure that resources reach the frontline service providers and are applied for the intended use. While the immediate priority of the CIFA PFM Action Plan is to address cash-based financial management, a subsequent need is to look at systematic approaches to capture and manage in-kind/material resource flow. Since the PETS is part of the PFM Action Plan, there is an opportunity to feed back this finding into the CIFA process. This could also be linked to the possible implementation of a Health Management Information System (HMIS).

6.26 A streamlined allocation and transfer system for facilities through a unified and enforced formula-based allocation system is needed. This is to minimize the apparent use of discretionary allocations, which are a primary cause of observed disparities in funding levels across states. The present system around the FFAMC is politically charged, applies only to the federal and state level, is based on too many and complicated criteria, and leaves too much space for discretionary allocations. The recommendation is in line with work carried out in the

PER (2007) and CIFA (2010). Any such strengthening would also provide the opportunity to review the set of criteria with a view to strengthening the poverty criterion to balance varied poverty levels across states. This could be tied in with the ongoing work on the Poverty Reduction Strategy (PRS) to provide the budgetary means to the action plan developed.

6.27 Harmonize the allocation system for the health sector across states and with guidelines for types of facilities. A harmonized system would promote fiscal responsibility throughout the levels. It would also allow more predictability at decentralized levels and thereby facilitate the basic service delivery responsibility of local authorities. Based on the practices observed in this study, such a streamlined system could include the following simplifications: Hospitals - funded through federal transfers to states and state revenues. Primary level facilities - funded through state transfers to localities. A harmonized allocation system could also call for increasing allocations to service provider levels. But further understanding is needed on the services delivered through funding from different levels. For instance, any such consideration needs to include the usage of federal 'consumption' of health sector funding, which is sizeable and makes up about one-third of overall funding.

6.28 Harmonize and increase the transparency of the overall policy for the administration of user fees, which is currently unequal across states. Not surprisingly, in states where health facilities can retain fees to supplement their spending on the service provider level, facilities show higher resource intensities. Resource intensity in this study was used as a gauge of service delivery quality, meaning of which is limited due to the insufficient data on supporting factors (see Chapter 5 above). It is therefore recommended to further the understanding of health fees and service delivery quality. At the same time, a national dialogue should be established, including the federal and state levels, to discuss current practices and suggestions for a harmonized user fee model in Sudan. This would also include issues of transparency of rules on levying mechanisms at the health facility levels and possibilities for strengthening local audit functions. The Bank stands ready to support these efforts.

6.29 The collection of user fees as a de facto state income, might also be a response to the deprivation of the most lucrative tax incomes over the last decade, which were taken on by the federal level (e.g. agriculture tax and sales tax). Due to this and to provide for a stable source of income to balance uncertainties around federal transfers, states may have had an incentive to look at user fees in health as alternative. Therefore, any policy change for user fees may need to consider ways to strengthen own revenue mobilization of states away from non-tax sources.

6.30 User fees in health may have detrimental effect on service access, especially for the poor and vulnerable. But further insights are needed on the overall question on cost and benefits of levying fees. For instance, a case study on North Kordofan for the PER (2007) showed that fees for services represent a significant barrier to access to care, particularly in rural areas. Of those who failed to pay in rural areas, only 1 percent was subsequently supported by a social support mechanism, compared to 62 percent in urban areas. On the other hand, one may argue that without fees to supplement facility level inputs, in many cases no services, drugs and other inputs may be made available at all. Further understanding is needed on the different aspects of health user fees in Sudan. The current work of the FMoH and the Bank on the Health Facility and Service Delivery (HFSD) study will be able to inform this discussion; likewise the Bank work on the Poverty Assessment will give further insights.

6.31 Introduce special incentives for personnel serving rural communities to close the gap between rural and urban facilities in retaining/employing staff. A wide body of

international evidence suggests that a bundle of incentives, which includes professional support alongside various kinds of incentives, including financial ones, is likely to be the most effective approach. Box 6 gives a short overview of approaches used in the past, which is currently being researched by a Bank team based on case studies of Tanzania and Uganda. A forthcoming policy note can be made available to the authorities upon finalization; likewise, other tailor-made advice on how to make 'hard to reach and stay areas' (HTRS) more attractive to qualified personnel in Sudan could be included into the ongoing policy dialogue with the authorities upon request.

Box 6: Hard to reach and stay areas (HTRS) – A typology of solutions

There is a number of possible ways to address the problem of understaffing in HTRS areas, and they can be distinguished through an analysis of the "typology of solutions". According to a forthcoming Policy Note by the World Bank (2011) such a typology distinguishes between efforts that aim to 'fix the state' and solutions that bypass the state in service delivery. Regarding efforts to fix the functioning of the state a distinction is made between supply-side approaches and demand-side, or accountability approaches. Supply-side approaches aim at enhancing the supply of professionals to meet shortages by taking a range of measures, such as offering positive incentives or changing rules and regulations of the HRM systems. Accountability measures include enhancing internal accountability (such as improved inspection) and measures empowering local communities to strengthen their demand for good quality services.

Based on a review of international experience, **examples of supply-side approaches include:**

- measures to ensure equity in establishments and resource allocation
- changes in schemes of service
- localizing recruitment and training
- cash and non-cash incentives, including performance enhancement measures
- changes in HR management systems
- allowing dual public and private practice

A wide body of evidence suggests that a bundle of incentives, which includes professional support alongside various kinds of incentives, including financial incentives, is likely to be the most effective approach. While financial incentives can have an immediate impact, a study in East and Southern Africa found that by comparison other kinds of incentives create a stabilizing influence by sustaining health worker commitment and sending signals that health workers are supported. No two bundles are likely to be quite the same and the incentives and support offered need to be carefully tuned to the context.

Mali: Example of incentive scheme for doctors

A long-running approach to recruiting doctors for rural areas has involved helping them to offer their services on a contractual basis to community health centers. Here the bundle of support included help in finding a post and in negotiating a contract, provision of an installation package, means of transport and accommodation, a regular salary comparable to that of a public post, the opportunity of professional development, and receiving 25 percent of the medical payments received from patient treatment. Those doctors supported through this approach stayed on average 4 years in rural areas, substantially longer than those without the support. The improved access to health care for the population was described as 'tangible'. A project in Madagascar, from 2003, offered a bundle with several of the same elements and was also rated a success on evaluation after 3 years.

On the demand side of the equation, it is important to distinguish internal accountability measures (such as reinforced inspections) from external measures (audit) and demand-side measures (pressure from service-users):

- *Internal accountability: inspection and compliance*
A critical element of internal accountability is regular inspection of health facilities. In terms of

enhancing effectiveness of inspections, the public service can learn a lot from the religious organizations (non-government sector) which often pay less but get more from their employees. This highlights that improved performance may often be more about staff management than financial incentives.

- *External accountability: increasing transparency*
Increased availability of information on finances, inputs and results, enables citizens to demand a level of accountability from service providers. Putting information in the public domain to inform people about public sector performance is the first step in building pressure for change.

Source: World Bank: Equity in Public Services in Tanzania and Uganda, Policy Note (forthcoming).

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ANNEX 1: CASE STUDIES OF THE 6 PETS STATES

BLUE NILE STATE

FINANCING FOR SERVICE DELIVERY

- 1. Blue Nile has among the highest poverty rates of the PETS states but also the highest per capita spending on health.** While health sector expenditure constitutes only 8 percent of the total state budget spending, a high amount of federal transfers compared to the other states in the sample makes Blue Nile the state with the highest level of overall public spending and health sector expenditure per capita of SDG 41.2.
- 2. Facility level data for Blue Nile shows that the three most important sources of financing for facilities are the state level transfers, health insurance and funding from foreign aid/NGO funded projects.** Contributions from other sources constitute a less prominent source of funding as compared to other states in the sample.
- 3. In Blue Nile state fees constitute a less prominent source of finance as compared to other states.** In Blue Nile fees constitute only 9 percent of total health sector finance as compared to 46 percent for all PETS states in total.
- 4. Compared to the state level expenditures for health of SDG 34.2mn, localities spend about SDG 4.5mn of which 98 percent is financed from state level transfers and the remaining amount from localities' own revenue.** It means that in total localities provide only an additional SDG 0.1mn for health sector expenditures in the state from their own sources of local revenue.

WHO SPENDS THE ALLOCATED FUNDS?

- 5. Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services. In Blue Nile, the share of the resources reaching facility levels is less than the average for the states.** In Blue Nile a high share of overall spending is executed at state level as compared to other states. This is partly due to high level of investments in infrastructure and facilities funded by federal level transfers and executed by the state level.

Table 1: Per capita health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
Blue Nile	832,112	21.7	4.4	37.0	63.1
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

- 6. According to the PETS data the total spending in Blue Nile on health is SDG 63.1 per capita (approximately USD 26.7²⁶) which is the second highest among the PETS states.** Despite the relatively high level of per capita spending, it is still below the WHO estimate of minimum spending per person per year of USD 35-50 needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

- 7. State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level inputs.** According to SMoF and localities data, states and localities in Blue Nile charged 59.3 percent for

²⁶ At an average exchange rate of SDG per USD of 2.36.

state and locality level expenditure with the remaining 40.7 percent (SDG 18.9 per capita) charged as expenditures benefitting health facilities. Compared to other states, a low share of total health sector expenditure is directly benefitting the facilities i.e. despite a high overall level of public expenditure a relatively low share is transferred to facilities.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
Blue Nile	46.5	18.9	40.7
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

8. According to facility level data, what is charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from State and locality levels. Comparing the records from state and localities with data from facilities shows that 74.6 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 14.1 per capita expenditures according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
Blue Nile	18.9	14.1	74.6
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

9. The above data taken together shows that of total per capita spending on health of SDG 46.5 in Blue Nile, SDG 14.1 (30.3 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample, and part of the explanation can be attributed to federal level transfers executed by the state for health infrastructure investments. However, the differences between the state and locality records of transfers and in-kind contributions to the facilities and facility records are significant and suggest that not the full value of charges intended for the benefit of facilities actually reaches the facilities.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis is based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. It suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and outpatients serviced by hospitals for each respective state shows that Blue Nile is above average of the PETS states for outpatients services and on average for inpatient services. Compared to the average of all states in the sample, Blue Nile has more hospital facilities relative to its population as reflected by population per hospital.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Blue Nile	22.4	52,007	26.6	5.7
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average for the states, Blue Nile has a higher level of per capita spending on hospitals which serve to maintain a higher outreach of services although lower resource intensity measured by cost per unit of service compared to the average of the other states in the sample²⁷. Its higher spending per capita compared to other states contributes to a higher level of in- and outpatient service delivery while resource intensity per patient is lower than the average for the PETS states.

13. A comparison of Blue Nile to the other PETS states suggests that a prioritization of resource allocations to facility levels could generate a significant increase of inpatient and outpatient services by the hospitals. This requires allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with increases in none-wage inputs like medicines and medical consumables.

14. Health centers are the second layer of service providers. In Blue Nile, health center capacity as measured by population per facility and outpatient services are on par with the average for the PETS states in the sample.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Blue Nile	19.0	18,912	29.9	0.3
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. The health centers in Blue Nile provide, on average, a level of in- and outpatients services relative to their population similar to the other states. The level of expenditure per capita for health centers are, however, well above the average for the states in the PETS sample which results in a high resource intensity per patient in health centers as compared to other states in the sample.

16. In Blue Nile health centers display higher resource intensity per patient than for hospitals. This can partly be explained by significant allocations funded by federal transfers to increase the capacity of the health centers as major service providers in the health system of the state.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states, but less prominent in Blue Nile compared to most of the other states. Still there are more BHUs per capita than health centers in Blue Nile and the relative outreach is less that of health centers.

²⁷ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. Similarly, the cost of each in-patient is about 1.8 times the cost of an outpatient in health centers. The cost in units of outpatients is used as a proxy to resources intensity.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Blue Nile	2.6	11,245	25.7	0.0
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In Blue Nile the health centers are more significant service providers compared to BHUs as measured by the number of patients serviced relative to the total population. The BHUs in Blue Nile also have higher resource intensities for each patient serviced when compared to the other states.

19. The survey data indicate that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. The data suggests that both outreach and quality of services are more favorable in urban than rural communities in Blue Nile. This is among others reflected by the resource intensity as measured by expenditure per patient which shows higher levels in urban than rural areas.

KEY ISSUES TO CONSIDER

- **Increase state budget allocation to health.** Blue Nile has a higher overall resource envelope per capita but the lowest share of public spending allocated to health compared to the other PETS states. However, with a state budget per capita well above the other PETS states, Blue Nile has a higher per capita spending on health. One of the main challenges for Blue Nile will be to maintain its level of spending on health from its state budget to fully utilize the increased investments in health sector infrastructure funded by federal transfers and foreign aid/NGOs.
- **Allow facilities to retain a larger share of the user fees.** Compared to other states, fees constitute a smaller share of health sector finance and are to a limited extent retained by facilities. As for the other PETS states, facilities can raise their level of finance if they can retain a larger share of the fees.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states there is a potential to increase the budget allocation for health at the facility levels. In the case of Blue Nile of the SDG 46.5 per capita spent on health, 14.1 SDG per capita (30.3 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it does suggest that efforts to improve monitoring of transfers and in-kind contributions to facilities could potentially increase the volume of service levels at this level.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicate that there is a significant variation in resource intensities between localities and service providers even within the same locality as well as between facilities located in rural and urban communities. This suggests that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending and improve outreach of services to rural communities.

KASSALA STATE

FINANCING FOR SERVICE DELIVERY

- 1. Kassala has lower poverty rates than the average of the PETS states.** With total public expenditure per capita on par with the average of the PETS states and 14 percent of the state budget allocated to health sector expenditure, public expenditure per capita on health is about the average of the PETS states.
- 2. According to survey data state level expenditures for health was SDG 46.0mn of which 10.7 percent was financed by fees transferred from facilities. Localities in Kassala spent SDG 8.8mn on health of which SDG 6.0mn was financed from state level transfers and the remaining amount from localities' own revenue.** This means that in total localities provide an additional SDG 2.8mn for health sector expenditures in the state from their own sources of local revenue.
- 3. Facility level data for Kassala show that the two most important sources of finance for the facilities are state level transfers and fees.** Contributions from localities and foreign aid/NGO funded projects also constituted important sources of finance while funding from Al Zakat and Health Insurance constituted only minor sources.
- 4. In Kassala 53 percent of the fees collected are retained by the facilities.** Fees constituted 18.9 percent of total funding for facilities and 17.4 percent of total health sector expenditures in the state (when including fees transferred to state and locality levels).

WHO SPENDS THE ALLOCATED FUNDS?

- 5. Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services.** In Kassala, a high share of overall spending is executed at state level as compared to the average of all PETS states.

Table 1: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
Kassala	1,789,806	14.1	2.9	16.5	33.6
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

- 6. According to the PETS data the total spending in Kassala on health is 33.6 SDG per capita (approximately USD 14.2²⁸) which is below the average of the PETS states.** This is far below the WHO estimate of minimum spending per person per year of USD 35-50 needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

- 7. State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level inputs.** According to SMoF and localities data, states and localities in Kassala charged 68.8 percent for state and locality level expenditure with the remaining 31.2 percent (9.5 SDG per capita) charged as expenditures benefitting health facilities. Thus, compared to other states, a low share of total health sector expenditure is directly benefitting the facilities.

²⁸ At an average exchange rate of SDG per USD of 2.36.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
Kassala	30.6	9.5	31.2
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

8. According to facility level data those amounts charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from state and locality levels. Comparing the records from state and localities with data from facilities shows that 64.9 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 6.2 per capita expenditures according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
Kassala	9.5	6.2	64.9
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

9. The above data taken together shows that of the total per capita spending on health of SDG 30.6 in Kassala, SDG 6.2 (20.2 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample. However, the differences between the two sources are significant and suggest that not the full value of charges actually reaches the facilities and less reaches facilities in Kassala when compared to the average for the PETS states.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis is based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. This suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and outpatients serviced by hospitals for each respective state shows that Kassala is below the average of the PETS states for outpatients services and inpatient services. Compared to the average of all states in the sample, Kassala has less hospital facilities relative to its population; this is reflected by its population per hospital.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Kassala	6.6	162,710	8.1	1.8
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average of the states, Kassala has a significantly lower level of spending per capita on hospitals which serves to explain the lower outreach of services. While Kassala has lower outreach of services, it has higher resource intensity measured by cost per unit of service compared to the average of the other states in the sample.²⁹

13. Comparing Kassala to the PETS states in general suggests that a prioritization of resource allocations to facility levels could generate a significant increase of inpatient and outpatient services by the hospitals. This requires allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with increases in none-wage inputs like medicines and medical consumables.

14. Health centers are the second layer of service providers. In Kassala, health center capacity as measured by population per facility is higher than the average for the PETS states while outpatient services are below the average for the PETS states.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Kassala	5.1	15,700	22.4	0.0
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. Health centers serve as the as major service providers in the health system of Kassala. Like many of the other PETS states, health centers display higher resource intensity per patient than hospitals.

16. The health centers in Kassala provide on average less outpatients services relative to their population compared to the other states. The level of expenditure per capita for health centers is well below the average of the PETS which results in lower resource intensity per patient in health centers as compared to most of the other PETS states.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states. In Kassala, there are more BHUs per capita and outreach of services is higher than in all the other PETS states.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Kassala	4.5	5,966	31.9	0.0
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In Kassala the BHUs are more significant service providers compared to health centers as measured by the number of patients serviced relative to the total population. However, the health

²⁹ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. Similarly, the cost of each in-patient is about 1.8 times the cost of an outpatient in health centers. The cost in units of outpatients is used as a proxy to resources intensity.

centers display a higher resource level per capita than BHUs although BHUs have higher resource intensities for each patient serviced, when compared to the other states.

19. The survey data indicate that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities in all states - including Kassala. This is also reflected by the resource intensity as measured by expenditure per patient which shows higher levels in urban than rural areas.

KEY ISSUES TO CONSIDER

- **Increase state budget allocation to health.** Kassala has a low overall resource envelope per capita. With a state budget well below many of the other PETS states measured on a per capita basis, Kassala could potentially achieve higher outreach of services by allocating more resources to facilities, and in particular for health centers and BHUs.
- **Allow facilities to retain a larger share of the user fees.** Fees constitute an important source of funding for facilities. Similar to other states, facilities can potentially raise their level of finance if allowed to retain a larger share of fees collected by them.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states there is a potential to increase the budget allocation for health that actually reaches facility levels. Of the SDG 30.6 per capita in public spending on health in Kassala, SDG 6.2 (20.2 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it does suggest that not the full value of charges actually reaches the facilities. Thus, efforts to improve monitoring of transfers and in-kind contributions to ensure that resources reach the frontline service provider as intended could potentially increase the volume of service levels at facility level.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicate that there is a significant variation in resource intensities between localities and service providers even within the same locality as well as between facilities located in rural and urban communities. This suggests that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending and improve outreach of services to rural communities.

KHARTOUM STATE

FINANCING FOR SERVICE DELIVERY

1. **Khartoum has the lowest poverty rate, the highest level of general public expenditure and health specific expenditure per capita when compared to the other PETS states.** The high level of expenditure relative to that of other states can for a large part be attributed to the fact that Khartoum as the federal capital also provides services for all states in addition to services directed to the population within the state.

2. **According to survey data, state level expenditures for health were SDG 147.4mn of which 37.6 percent were financed by fees transferred from facilities. Localities in Khartoum spent another SDG 63.6mn on health of which SDG 45.5mn was financed from state level transfers, 1.5mn from facility level fees and the remaining 16.5mn from localities' own revenue.** In Khartoum, state and locality level revenue constitutes the main sources of revenue - on per capita basis this significantly more compared to the other PETS states.

3. **Facility level data for Khartoum shows that the most important source of finance for the facilities are fees.** Federal transfers, state revenue and foreign aid/NGO funded projects also constituted important sources of finance while transfers from localities, funding from Al Zakat and Health Insurance constituted only minor sources of finance.

4. **In Khartoum, 51 percent of the fees collected are retained by the facilities.** Fees constituted 37.9 percent of total funding for facilities and 55.5 percent of total health sector expenditures in the state (when including fees transferred to state and locality levels).

WHO SPENDS THE ALLOCATED FUNDS?

5. **Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services.** In Khartoum, a higher share of overall spending (75 percent) is executed at facility level as compared to the average of all PETS states (65 percent).

Table 1: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
Khartoum	5,274,321	4.6	12.0	48.6	65.2
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

6. **According to the PETS data the total spending in Khartoum on health is SDG 65.2 per capita (approximately USD 27.6³⁰) which is the highest among the PETS states.** However, it is still low taking into consideration that the amount includes federal level health services benefitting the population of all states and it is below the WHO estimate of minimum spending per person per year of USD 35-50 needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

7. **State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels such as facility level inputs.** According to SMoF and localities data, states and localities in Khartoum charged 47.9 percent for state and locality level expenditures with the remaining 52.1 percent (SDG 20.8 per capita) charged as expenditures

³⁰ At an average exchange rate of SDG per USD of 2.36.

benefitting health facilities. Compared to the average of the PETS states a higher share of total health sector expenditure is directly benefitting the facilities.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
Khartoum	40.0	20.8	52.1
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

8. According to facility level data those amounts that are charged as expenditures at state and locality levels benefitting facilities deviate from what facilities have recorded as cash and in-kind contributions from state and locality levels. Comparing the records from state and localities with data from facilities shows that 58.6 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 12.2 per capita expenditures according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
Khartoum	20.8	12.2	58.6
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

9. The above data taken together shows that of total per capita public spending on health of SDG 40.0 in Khartoum, SDG 12.2 (30.5 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample. However, the differences between the two sources are significant and suggest that not the full value of charges actually reaches the facilities.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis is based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. This suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and outpatients serviced by hospitals for each respective state shows that Khartoum is above the average of the PETS states for outpatients and inpatient services. Compared to the average of all states in the sample, Khartoum has less hospital facilities relative to its population as reflected by population per hospital. However, Khartoum has larger and several specialized hospitals that service all states. This is partly the reason why Khartoum display higher outreach of services as compared to the average of the PETS states.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Khartoum	37.6	188,369	15.1	7.7
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average for the states, Khartoum has a significantly higher level of per capita spending on hospitals and higher resource intensity measured by cost per unit of service compared to the average of the other states in the sample³¹. This is first and foremost because Khartoum has several federal hospitals providing specialized services for the national population beyond the population within the state.

13. The results of the analysis comparing Khartoum to the PETS states in general, suggest that a prioritization of resource allocations to facility levels could generate a further increase of inpatient and outpatient services by the hospitals. This requires allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with increases in none-wage inputs like medicines and medical consumables.

14. Health centers are the second layer of service providers. In Khartoum, health center capacity as measured by population per facility as well as outpatient services are above the average for the PETS states.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Khartoum	13.2	14,255	46.2	0.0
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. The health centers in Khartoum provide on average more outpatients services relative to their population compared to the other states. The level of expenditure per capita for health centers are among the highest of the PETS states which results in higher resource intensity per patient in health centers as compared to most of the other PETS states.

16. Health centers serve as the as major primary health care service providers in the health system of Khartoum. This is also reflected by the higher resource intensity per patient than most of the others PETS states.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states. They are also key primary health care service providers in Khartoum with more BHUs per capita than any of the other PETS states.

³¹ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. Similarly, the cost of each in-patient is about 1.8 times the cost of an outpatient in health centers. The cost in units of outpatients is used as a proxy to resources intensity.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Khartoum	4.5	5,966	31.9	0.0
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In Khartoum, however, the BHUs are less significant primary health care service providers compared to Health Centers as measured by the number of patients serviced relative to the total population. The health centers also display a higher resource level per capita than BHUs and they have lower resource intensities for each patient serviced when compared to the other states.

19. The survey data indicates that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities in most of the states but less so for the state of Khartoum. While outreach and quality of services are more favorable in urban than rural communities in most of the PETS states this is less so in the state of Khartoum.

KEY ISSUES TO CONSIDER

- **Increase state budget allocation to health.** Khartoum has a higher overall resource envelope per capita as compared to other states but a low share of spending allocated to health. Since many facilities in Khartoum provides federal level services, the overall spending per capita serving the population within the state is likely on par with the PETS states. The facilities, and in particular primary level facilities, could potentially achieve higher outreach of services by allocating more resources from the state budget to the health sector, and a higher share of the health budget allocated to facilities.
- **Allow facilities to retain a larger share of the user fees.** Fees constitute the most important source of funding for facilities in Khartoum. Similar to other states, the facilities in Khartoum can potentially increase their level of finance and service delivery if allowed to retain a larger share of fees collected by them.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states there is a potential to increase the budget allocation for health that actually reaches facility levels. Of the SDG 40.0 per capita public spending on health in Khartoum SDG 12.2 (30.5 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it does suggest that not the full value of charges actually reaches the facilities. Efforts to improve monitoring of transfers and in-kind contributions to ensure that resources reach the frontline service provider could potentially increase the volume of service levels at facility level significantly.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicates that there is a significant variation in resource intensities between localities and service providers even within the same locality. This suggests that that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending.

NORTH KORDOFAN STATE

FINANCING FOR SERVICE DELIVERY

1. **North Kordofan has a higher poverty rate and the lowest level of public spending per capita as compared to the other states in the PETS sample.** However, according to survey data , North Kordofan spent 23 percent of the total state budget on health which is the highest share of budget spending on health among the states. Despite a high share of state budget allocated to health, the low overall resource envelope per capita makes spending on health per capita still the lowest among the states equivalent to only 10.4 SDG per capita.

2. **Facility level data for North Kordofan show that the two most important sources of finance for the facilities are the state level transfers and user fees while health insurance also constitute an important source of finance.** Contributions from other sources like Al Zakat, NGOs, private sector donations and donors constitute only minor sources of funding.

3. **In North Kordofan approximately 35 percent of state level expenditures are financed by fees from facilities i.e. fees constitute a significant source of state revenue to finance expenditure on health.** Only 17 percent of the fees collected by the facilities are retained at the facility to finance facility level expenditures.

4. **Compared to the state level expenditures for health of SDG 30.4mn, localities spend about SDG 8.9mn of which 72 percent is financed from state level transfers and the remaining amount from localities' own revenue.** It means that in total localities provide an additional SDG 6.4mn for health sector expenditures in the state from their own sources of local revenue. In addition to state and locality level resources including fees transferred from facilities, facilities generate an additional SDG 5.5.mn in fees that they retain for financing of own expenditures.

WHO SPENDS THE ALLOCATED FUNDS?

5. **Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services. Compared to the average for the states, a lower share of the resources reaches facility levels in North Kordofan.** This is partly because in North Kordofan fees at facility level are for a large part transferred to state level. On per capita basis, health sector spending is lower at all administrative levels compared to the average for all PETS states.

Table 1: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
North Kordofan	2,920,992	5.9	2.4	5.1	13.4
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

6. **According to the PETS data the total spending in North Kordofan on health is 13.4 SDG per capita (approximately 5.7 USD³²) which is the lowest among states in the sample.** It is well below the WHO estimate of minimum spending per person per year of between 35-50 USD needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

7. **State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level**

³² At an average exchange rate of SDG per USD of 2.36.

inputs. According to SMoF and localities data, states and localities in North Kordofan charged 67.5 percent for state and locality level expenditure with the remaining 32.5 percent (4.4 SDG per capita) charged as expenditures benefitting health facilities.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
North Kordofan	13.4	4.4	32.5
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

8. According to facility level data those amounts charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from State and locality levels. Comparing the records from state and localities with data from facilities shows that only 50.1 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 2.2 per capita according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
North Kordofan	4.4	2.2	50.1
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

9. The above data taken together shows that of total per capita spending on health of SDG 13.4 in North Kordofan, SDG 2.2 (16.4 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample. However, the differences between the two sources are significant and suggest that not the full value of charges actually reaches the facilities.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis are based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. It suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and out-patients serviced by hospitals for each respective state shows that North Kordofan is below average of the PETS states in outpatients as well inpatient services. Compared to the average of all states in the sample, North Kordofan has fewer hospital facilities relative to its population as reflected by population per hospital. It has the lowest level of inpatient and outpatient services which can be explained by the lowest per capita spending among all the states in the sample.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
North Kordofan	2.2	132,772	7.7	1.0
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average for the states, North Kordofan has the lowest per capita spending on hospitals, limited outreach of services and among the lowest resource intensity measured by cost per unit of service compared to the other states in the sample³³. In some states with equal per capita spending they are still able to maintain higher outreach of hospital services and higher resource intensity per patient which seems to be correlated with the extent to which facilities not only collect but also can retain user fees.

13. The results of the analysis for the PETS states in general and North Kordofan in particular suggest that a prioritization of resource allocations to facility levels could generate a significant increase of inpatient and outpatient services by the hospitals. This would require allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with significant increases in none-wage inputs like medicines and medical consumables.

14. Health centers are the second layer of service providers. In North Kordofan, health center capacity as measured by population per facility and outpatient services are the lowest among the states in the sample.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
North Kordofan	3.1	32,099	9.3	0.3
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. With the relative low level of expenditure per health center, North Kordofan provides less in- and outpatients services relative to their population compared to the other states. According to the PETS data the cost of each inpatient is about 1.8 times the cost of an outpatient in health centers. As for hospitals, the cost in units of outpatients is used as a proxy to cost by unit of service.

16. Most of the states including North Kordofan display higher resource intensity per patient for health centers than for their hospitals. This can partly be explained by the fact that many health centers provide inpatient services and attempt to perform many of the services that in states like Khartoum are referred to hospitals.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states including North Kordofan. There are more BHUs per capita than health centers and in North Kordofan and the relative outreach is above that of health centers.

³³ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. The cost in units of outpatients is used as a proxy to resources intensity.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
North Kordofan	1.8	7,831	36.5	0.3
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In North Kordofan the BHUs are the major service providers as measured by the number of patients serviced relative to the total population. However, with a low overall resource level per capita for health sector expenditures, BHUs in North Kordofan have very low resource intensities for each patient serviced when compared to the other states.

19. The survey data indicate that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities in all states - including North Kordofan. This is also seen in the intensity as measured by expenditure per patient which shows higher levels in urban than rural areas.

KEY ISSUES TO CONSIDER

- **Despite a high share of state budget allocated to health, the low overall resource envelope per capita in the state makes spending on health per capita still the lowest among the states in the sample.** One of the main challenges for North Kordofan is to mobilize more revenue and federal transfers to increase the state budget allocation for all services including health.
- **Allow facilities to retain a larger share of the user fees.** In North Kordofan, a significant share of spending is funded by user fees collected by facilities and transferred to the state administration. Facilities retain 17 percent of the fees collected. If facilities could retain a larger share of the user fees collected, resource use could potentially be increased and with it service delivery at facility levels.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states a minor share of total budget allocation for health actually reaches facility levels. In the case of North Kordofan of the SDG 13.4 per capita spent on health, 2.2 SDG per capita (15.5 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it also suggests that not the full value of charges actually reaches the facilities. While allowing facilities to retain fees may be one option to increase allocations to facilities, efforts to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers is another.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicate that there is a significant variation in resource intensities between localities and service providers even within the same locality as well as between facilities located in rural and urban communities. This suggests that that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending and improve outreach of services to rural communities.

SOUTH KORDOFAN STATE

FINANCING FOR SERVICE DELIVERY

1. **South Kordofan has a higher poverty rate and among the lowest levels of public spending per capita as compared to the other states in the PETS sample.** According to survey data the health sector is a priority sector with as much as 22 percent of the state budget spent on health. Despite a high share of state budget allocated to health the low overall low resource envelope for public spending per capita makes spending on health per capita still the lowest among the states equivalent to only SDG 12.8 per capita.
2. **Facility level data for South Kordofan show that the three most important sources of finance for the facilities are state level transfers, health insurance and user fees.** Contributions from other sources like Al Zakat, NGOs, private sector donations and donors constitute only minor sources of funding.
3. **Compared to the state level expenditures for health of SDG 18.0mn, localities spend about SDG 7.7mn of which 90 percent is financed from state level transfers and the remaining amount from localities' own revenue.** This means that in total localities provide an additional SDG 0.8mn for health sector expenditures in the state from their own sources of local revenue.
4. **In South Kordofan state fees constitute an important source of finance.** Different from other states, facilities in South Kordofan retain all fees collected by them which constitute 28 percent of facility level finance.

WHO SPENDS THE ALLOCATED FUNDS?

5. **Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services. In South Kordofan the share of the resources reaching facility levels is close to the average for the states.** This is partly because in South Kordofan fees at facility level are retained by facilities. However, with an overall low resource envelope for health, health sector spending on per capita basis is lower at all administrative levels compared to the average for all PETS states.

Table 1: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
South Kordofan	1,406,404	2.7	4.9	13.8	21.4
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

6. **According to the PETS data the total spending in South Kordofan on health is SDG 21.4 per capita (approximately USD 9.1³⁴) which is the second lowest among states in the sample.** It is well below the WHO estimate of minimum spending per person per year of USD 35-50 needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

7. **State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level inputs.** According to SMoF and localities data, states and localities in South Kordofan charged 30.2 percent for state and locality level expenditure with the remaining 69.8 percent (SDG 12.7 per capita)

³⁴ At an average exchange rate of SDG per USD of 2.36.

charged as expenditures benefitting health facilities. Compared to other states, this is the highest share of total health sector expenditure benefitting the facilities i.e. despite a low overall level of public expenditure a higher share of the state budget is allocated to health and a high share transferred to facilities. Thus, facility level expenditure per capita is at the average of the PETS states.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
South Kordofan	18.3	12.7	69.8
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMoF and localities.

8. According to facility level data those amounts charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from state and locality levels. Comparing the records from state and localities with data from facilities shows that only 61.5 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 7.8 per capita expenditures according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
South Kordofan	12.7	7.8	61.5
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMoF and localities.

9. The above data taken together shows that of total per capita spending on health of SDG 18.3 in South Kordofan, SDG 7.8 (42.6 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample. However, the differences between the two sources are significant and suggest that not the full value of charges actually reaches the facilities.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis are based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. This suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and outpatients serviced by hospitals for each respective state shows that South Kordofan is above average of the PETS states for outpatients services and below average for inpatient services. Compared to the average of all states in the sample, South Kordofan has more hospital facilities relative to its population as reflected by population per hospital.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
South Kordofan	14.5	74,021	15.0	4.6
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average for the states, South Kordofan has a lower level of per capita spending on hospitals but is still able to maintain outreach of services and resource intensity measured by cost per unit of service on par with the average of the other states in the sample.³⁵

Despite its low overall spending per capita, a high share of spending for health and a policy allowing facilities to retain all fees contributes to a level of in- and outpatient service delivery as well as resource intensity per patient on par with the average for the PETS states.

13. The results of the analysis for the PETS states in general and South Kordofan in particular suggest that a prioritization of resource allocations to facility levels could generate a significant increase of inpatient and outpatient services by the hospitals. This requires allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with increases in none-wage inputs like medicines and medical consumables.

14. Health centers are the second layer of service providers. In South Kordofan, health center capacity as measured by population per facility and outpatient services is relative higher compared the average for states in the sample.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
South Kordofan	8.5	13,654	37.6	2.3
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. With average level of expenditure per health center compared to the states in the sample, South Kordofan provides more in- and outpatients services relative to their population in comparison to the other states. According to the PETS data the cost of each inpatient is about 1.8 times the cost of an outpatient in health centers. As for hospitals, the cost in units of outpatients is used as a proxy to cost by unit of service.

16. In South Kordofan hospitals display higher resource intensity per patient than in the case of health centers. Despite that many health centers provide inpatient services and attempt to perform many of the services, in South Kordofan patients are to a larger extent referred to hospitals like it is the case also in Khartoum, while in other states hospital capacity is relatively lower.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states

³⁵ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. The cost in units of outpatients is used as a proxy to resources intensity.

including South Kordofan. There are more BHUs per capita than health centers in South Kordofan and their relative outreach is above that of health centers.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
South Kordofan	3.0	7,325	42.4	0.0
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In South Kordofan the BHUs are the major service providers as measured by the number of patients serviced relative to the total population. However, with a low overall resource level per capita for health sector expenditures, BHUs in South Kordofan have very low resource intensities for each patient serviced when compared to the other states.

19. The survey data indicates that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities in all states - including South Kordofan. This is also reflected by the resource intensity as measured by expenditure per patient which shows higher levels in urban than rural areas.

KEY ISSUES TO CONSIDER

- **Despite a high share of state budget allocated to health, the low overall resource envelope per capita in the state makes spending on health per capita still the lowest among the states in the sample.** One of the main challenges for South Kordofan is to mobilize more revenue and federal transfers to increase the state budget allocation for all services including health.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states there is a potential to increase the budget allocation for health that actually reaches facility levels. In the case of South Kordofan of the SDG 18.3 per capita spent on health, SDG 7.8 per capita (42.6 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it does suggest that not the full value of charges actually reaches the facilities. Efforts to improve monitoring of in-kind contributions to ensure that resources reach the frontline service provider could potentially increase the volume of service levels at facility level significantly.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicates that there is a significant variation in resource intensities between localities and service providers even within the same locality as well as between facilities located in rural and urban communities. This suggests that that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending and improve outreach of services to rural communities.

RED SEA STATE

FINANCING FOR SERVICE DELIVERY

1. **Red Sea has a higher poverty rate and lower level of public spending per capita as compared to many of the other states considered in the PETS.** However, according to survey data, Red Sea spend 14 percent of the total state budget on health equivalent to per capita spending of SDG 25.0 which is above the average of all states in the sample.

2. **Facility level data for Red Sea shows that the two most important sources of finance for the facilities are state level transfers and user fees.** Contributions from other sources like Al Zakat, NGOs, private sector donations and donors constitute only minor sources of funding in Red Sea; this is similar to the other states.

3. **Compared to other states Red Sea State uses facility level fees as a significant source of state revenue, which is almost equivalent to the state budget expenditure on health.** A total account of health sector expenditure from state to facility levels in Red Sea shows that transfers of fees is the most significant source of funding and facilities only retain a small share of the fees collected (12 percent of the fees); this is lower than in other states.

4. **According to the survey data, none of the localities in the state of Red Sea received fees from the facilities.** This is confirmed when comparing facility level and state level data. Red Sea is the only state in the sample in which the State Ministry of Finance collects its part of the fees directly from the facilities. This may partly serve to explain the relatively high level of revenue from fees compared to others states.

WHO SPENDS THE ALLOCATED FUNDS?

5. **Total health resources are utilized at different levels of the health system and there are differences between the states. The data displays a significant variation between states as to who executes spending for health services.** Compared to the average for the states, a lower share of the resources reaches facility levels in Red Sea. This is because in the Red Sea fees at facility level are for a large part transferred to state level.

Table 1: Per capita Health sector expenditures by administrative level

State	Population	State (SDG)	Localities (SDG)	Facilities (SDG)	Total (SDG)
Red Sea	1,396,110	13.6	5.2	11.4	30.2
Average 6 PETS States	13,619,745	7.9	6.8	26.9	41.7

Source: Survey data and CBS.

6. **According to the PETS data the total spending in Red Sea on health is SDG 30.2 SDG per capita (approximately USD 12.8³⁶) which is below the average for the states in the sample.** It is also well below the WHO estimate of minimum spending per person per year of 35-50 USD needed to provide basic life-saving services.

TRACKING PUBLIC RESOURCES

7. **State and locality allocations for health are partly utilized at respective levels and partly charged as cash and in-kind contributions to lower levels like expenditures for facility level inputs.** According to SMoF and localities data, states and localities in Red Sea charged 67.8 percent for state and locality level expenditure with the remaining 32.2 percent (10.2 SDG per capita) charged as expenditures benefitting health facilities.

³⁶ At an average exchange rate of SDG per USD of 2.36.

Table 2: State and locality expenditure for health (in SDG per capita)

	Total State and locality expenditure	Of which transfers or expenditures for facility level inputs	% facility level
Red Sea	31.6	10.2	32.2
Average 6 PETS States	30.4	13.8	45.4

Source: Survey data from SMOF and localities.

8. According to facility level data, what is charged as expenditures at state and locality levels benefitting facilities deviates from what facilities have recorded as cash and in-kind contributions from State and locality levels. Comparing the records from state and localities with data from facilities shows that only 47.8 percent of what state and localities have charged as facility level expenditures actually reach the facilities equivalent to SDG 4.9 per capita according to facility records.

Table 3: Expenditure charged as facility level expenditures (in SDG per capita)

	State and Locality contributions according to State and Locality level data	State and Locality contributions according to Facility level data	Facility level records in % of state and locality level records
Red Sea	10.2	4.9	47.8
Average 6 PETS States	13.8	8.2	59.4

Source: Survey data from facilities, SMOF and localities.

9. The above data taken together shows that Red Sea spent SDG 31.6 per capita on health of which SDG 4.9 (15.5 percent) reached facilities as per facility records. Part of the difference in the records may be attributed to differences in estimation of the value of in-kind contributions by facilities as compared to the actual cost charged to state and/or locality accounts; there could also be statistical errors in as much as the facility data are aggregated figures based on weighted averages for the facilities in the sample. However, the differences between the two sources are significant and suggest that not the full value of charges actually reaches the facilities.

10. Detailed records of in-kind contributions at facility level as well as records of in-kind contributions from state and locality levels proved to be of poor quality. While the above analysis are based on aggregate data from state, locality and facility levels, tracking of individual contributions for medicines, medical supplies, etc. was not possible due to the data quality. It suggests that there is scope to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers and are applied for the intended use.

PUBLIC EXPENDITURE AND SERVICE DELIVERY

11. The number of inpatients and outpatients serviced by hospitals for each respective state shows that Red Sea is at the average of the PETS states in serving outpatients but has a lower level of inpatient services than the average. While Red Sea has relatively more hospital facilities compared to its population as reflected by population per hospital they have lower capacity as reflected by inpatient services. This in turn serve to explain the lower per capita spending than the average for the states.

Table 4: Spending on Hospitals and number of patients serviced 2009

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Red Sea	5.8	82,124	13.0	2.1
Total 6 PETS States	19.3	120,529	13.1	5.5

Source: Survey data from facilities.

12. Compared to the average for the states, Red Sea has low per capita spending on hospitals, limited outreach of services and low resource intensity measured by unit of service³⁷. In some states with equal per capita spending they are still able to maintain higher outreach of hospital services and higher resource intensity per patient which seems to be correlated with the extent to which facilities not only collect but also can retain user fees.

13. The results of the analysis for the PETS states in general and Red Sea in particular suggest that a prioritization of resource allocations to facility levels could generate a significant increase of inpatient and outpatient services by the hospitals. This would require allocation of resources to fill vacant positions to fully utilize the existing infrastructure combined with significant increases in none-wage inputs like medicines and medical consumables. Red Sea and South Kordofan service the same size of population. The poverty headcount is higher in South Kordofan but the per capita resource envelope for the state is lower. However, South Kordofan's resource allocation to hospitals as measured by the spending per facility and number of persons being serviced are higher and so is the overall spending per person receiving the service ("getting more for less money" compared to other states).

14. Health centers are the second layer of service providers. In Red Sea outpatient services were equivalent to 15.8 percent of the population. Health Centers also provide inpatient services.

Table 5: Spending on Health Centers and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Red Sea	4.1	27,375	15.8	0.1
Total 6 PETS States	8.9	17,619	30.1	0.3

Source: Survey data from facilities.

15. With the relative low level of expenditure per health center, Red Sea provides less in- and outpatients services relative to their population compared to the other states. According to the PETS data the cost of each inpatient is about 1.8 times the cost of an outpatient in health centers. As for hospitals, the cost in units of outpatients is used as a proxy to cost by unit of service.

16. Most of the states including Red Sea display higher resource intensity per patient for health centers than for their hospitals. This can partly be explained by the fact that many health centers provide inpatient services and attempt to perform many of the services that in states like Khartoum are referred to hospitals.

17. Lower level primary facilities or Basic Health Units (BHU) like dispensaries, dressing stations and primary health care units are key frontline service providers in many of the states including Red Sea. There are more BHUs per capita than health centers and in Red Sea the relative outreach is above that of health centers.

³⁷ 'Spending per capita' is used as an indicator of overall resource availability. The number of patients compared to population is used to measure 'outreach of services'. Resource per patient ('resources intensity') is used as a proxy to quality of service for different type of facilities. This proxy, however, has limitations which do not allow to draw stringent conclusions on the level and quality of service delivery. The data for the PETS states indicates that the cost of each in-patient is about 8.7 times the cost of an outpatient in a hospital. This is equivalent to 1.9 times the cost of one in-patient day with average stay in a hospital for an in-patient of 4.5 days. The cost in units of outpatients is used as a proxy to resources intensity.

Table 6: Basic Health Units expenditure and number of patients serviced

State	Spending per capita (SDG)	Population per facility	Outpatients % of population	Inpatients % of population
Red Sea	2.4	6,810	18.0	0.0
Total 6 PETS States	1.8	11,109	21.2	0.1

Source: Survey data from facilities.

18. In Red Sea the BHUs are the major service providers as measured by the number of patients serviced relative to the total population. BHUs in Red Seas also have higher resource intensities relative most of the other states.

19. The survey data indicate that there is a significant variation in resource intensities between patients located in rural and urban communities for all types of facilities. This suggests that both outreach and quality of services are more favorable in urban than rural communities in all states - including Red Sea. This is also seen in the intensity as measured by expenditure per patient which shows higher levels in urban than rural areas.

KEY ISSUES TO CONSIDER

- **Allow facilities to retain user fees.** Red Sea spent 14 percent of the total state budget on health equivalent to per capita spending of SDG 25.0 which is above average for the states in the sample. However, a significant share of spending is funded by user fees collected by facilities and transferred to the state administration. If facilities were able to retain user fees like in other states, it could potentially increase resource use and thus service delivery significantly at facility levels in Red Sea.
- **Improve monitoring of budget transfers and in-kind contributions to facilities.** The PETS data shows that for all states a minor share of total budget allocation for health actually reaches facility levels. In the case of Red Sea of the SDG 31.6 per capita spent on health 4.9 SDG per capita (15.5 percent) reached facilities as per facility records. While this finding may partly be attributed to difference in estimation methods and/or statistical errors, it would still suggest that not the full value of charges actually reaches the facilities. While allowing facilities to retain fees may be one option to increase allocations to facilities, efforts to improve monitoring of in-kind contributions to ensure that resources reach the frontline service providers is another.
- **Adjust the system for allocation of state/locality transfers to facilities.** The survey data indicate that there is a significant variation in resource intensities between localities and service providers even within the same locality as well as between facilities located in rural and urban communities. This suggests that that there is scope to adjust the system for allocation of budget resources to facilities. A formula based system that takes into account size of population and type of facilities across the state could potentially improve predictability and monitoring for facility level spending and improve outreach of services to rural communities.