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Project Title: *Reducing Morbidity And Mortality Among Pregnant Women And Children Below the Age of Five Years Using Long Lasting Insecticide Treated Nets In Communities In Three Disadvantaged Districts Of Uganda.*

Date of Entry: *July 2005*

Applicant: *Government of the Republic of Uganda*

Sector: *Health*

Project type: *Material supply*

Target Sites: *Three Districts : Apac, Kibaale & Yumbe*

Distance: *Not applicant*

Requested amount: *US \$ 180,000.00 annually for 4 years
Total (US\$ 720,000)*

Desired Implementation: *2005/06 to 2008/09*

Implementing Agency: *Ministry of Health*

Person in charge: *The Permanent Secretary
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1. Background

Uganda has a population of about 26 million and an annual population growth rate of 3.4% (UBOS 2002). The Maternal Mortality Ratio is high at 506 per 100,000 live births, and Infant and Under-Five Mortality Rates are equally high, estimated at 88 and 152 per 1,000 live births respectively (UDHS 2001). The main causes of morbidity and mortality are the common childhood illnesses that are largely preventable, including malaria, diarrhea, measles and pneumonia. Perinatal deaths contributed to 30% of infant mortality. Malnutrition is an underlying factor in more than half of all under 5 deaths annually.

Malaria is the leading cause of morbidity in Uganda, accounting for 15.4% of premature healthy life years lost. Malaria accounts for 14% of all hospital deaths, 20% of all hospital admissions and 40% of all hospital out patient attendances (Roll Back Malaria Baseline Assessment 2001). Pregnant women and children under five years of age are most vulnerable to the effects of malaria.

As well as being a leading cause of mortality, malaria also causes severe illness in young children, giving rise to severe anaemia and cerebral complications, both of which may have severe consequences for long-term child survival and educational and social development, even if they do not result in the immediate death of the child. Pregnant women are also prone to severe and complicated malaria due to their reduced immunity levels. Malaria infection during pregnancy also has serious consequences for the unborn infant, leading to low birth weight (<2,500 g), one of the most important factors in determining the future survival and development of the child. In addition, malaria contributes greatly to reduced growth (stunting), mental retardation, and absenteeism of older children from school and loss of productivity at work since 4-9 days are lost per malaria episode.

In most parts of Uganda temperature and rainfall are sufficient to allow a stable, perennial malaria transmission at high levels with relatively little seasonal variability. Only in the high altitude areas in the Southwest and East malaria transmission is generally low with more pronounced seasonality and the occurrence of epidemics e.g. 1992, 1994, 1997/98 and 2000/2001). Based on this epidemiology malaria significantly contributes to the burden of disease as well as economic losses. WHO estimates that poor households spend up to 25% of their monthly income on malaria.

Since the foundation of the Malaria Control Unit at the Ministry of Health in 1995, the National Malaria Programme has made considerable progress in establishing a Malaria Control Policy (1998) and Malaria Strategic Plan in the framework of the Health Sector Strategy Plan (HSSP) and the Poverty Reduction Strategy Plan (PRSP). These efforts have been supported by the creation of the 'Roll Back Malaria' partnership in the country in the year 2000. The current challenge to malaria control efforts in Uganda is to translate existing control strategies into well coordinated implementation plans and bringing these to scale at national level.

Based on the Uganda National Malaria Control Policy (1998) and in keeping with the Minimal Health Care Package of the HSSP, the Ugandan Malaria Control Strategy Plan FY 2001/2-2004/5 states four main elements of the strategy for malaria control.

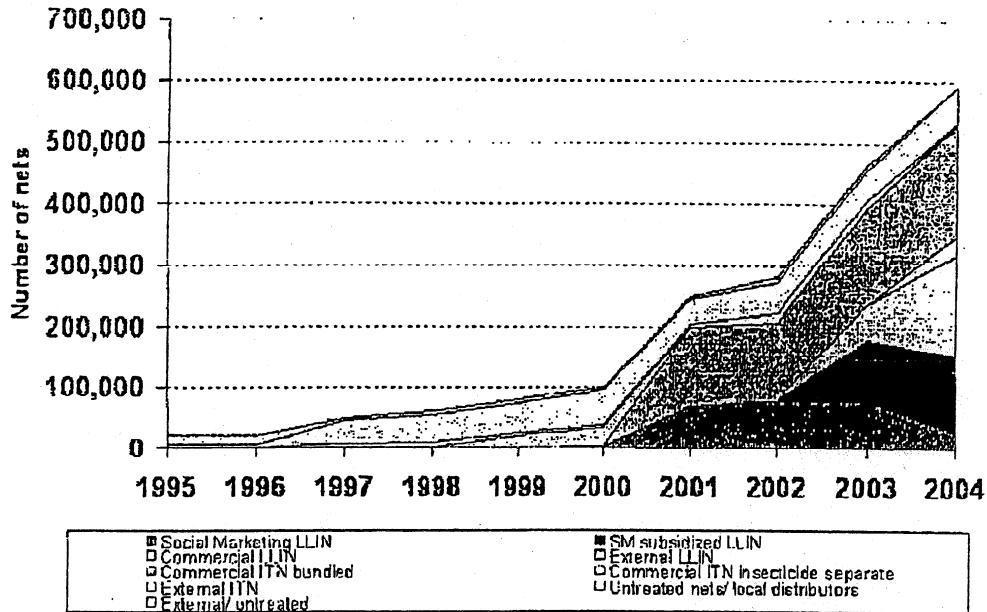
1. Improvement of case management at all levels including Home Based Management of Fever (HBMF)
2. Vector control with focus on the use of insecticide treated nets (ITNs)
3. Intermittent presumptive treatment (IPT) of malaria in pregnancy
4. Epidemic preparedness and control

Promotion of correct use of ITNs can contribute to the reduction in morbidity and mortality related to malaria in these vulnerable groups. However, ITNs are still scarce in most rural and poor communities in Uganda where the commercial partners are less attracted. The use of insecticide treated nets is relatively new in Ugandan communities. Since its introduction in the country in early 1990s, the promotion of its use has been mainly by NGOs in form of small efficacy trial projects covering few populations. Surveys done in 1995 and 1996 by AMREF and GTZ indicate that less than 1% of the population used mosquito nets at that time.

Since then significant progress has been made in the promotion of ITNs and the establishment of a commercial market for nets as well as insecticides. In 1998 the Ministry of Health included ITNs in the National Malaria Policy as one of the key strategies for malaria prevention. In 1999 import tariffs as well as value added tax (VAT) was waived for mosquito nets and netting materials and in 2002 the Uganda Bureau of Standards adopted the WHO recommended quality standards for mosquito nets and public health insecticides which are expected to be applied to all imported mosquito nets after January 1st 2003. Most importantly, a comprehensive ITN Policy and Strategy was agreed upon and launched on Africa Malaria Day in 2003, which clearly defined the role and responsibilities of the various partners and stakeholders.

This creation of a favorable environment coupled with increasing awareness and demand from the population has dramatically improved the supply side for ITNs in the country. Since 2002 at least 4 commercial net and/ or insecticide distributors and one social marketing project are active which are selling either high quality mosquito nets alone, nets co-packed with a single dose of insecticide or factory pre-treated long lasting ITN through expanding distribution networks. This is complemented by some ITN distribution through District Health Services which had purchased these previously through funds from the District Health Services project and by sales of untreated nets of lesser quality through hawkers and small shops. The total annual sales of mosquito nets in Uganda has increased from an estimated 40,000 nets in 1999 to about 100,000 in 2000 and 594,000 in 2004. About one half of these are channeled through 20 NGOs active in the distribution of ITN, the other half sold in the commercial market. The price of an ITN has decreased in recent years. A family sized net was sold for 6.6-10.3 US\$ in 1998/99, it is between 4.3 and 7.7 US\$ in 2004.

The Figure shows the trends in nets sales by source 1995-2004



With increasing availability of nets and insecticide the ITN coverage and utilization in Uganda has increased. Based on a number of data sources (e.g., UDHS 2000/2001, RBM base-line, CMS survey, Net Mark) the proportion of households with at least one mosquito net in 2000/2001 can be assumed to vary between 15%-45% in urban centres and 2-15% in rural areas with a country wide estimate of 12.8% (UDHS 2000/01). However, the proportion of these nets which are insecticide treated is still very low ranging between 2% and 20% and the overall coverage of children under five years of age with ITN does not exceed 2-3% at national level (UDHS).

The major problems faced for going to scale with ITNs in Uganda therefore are:

- Still insufficient awareness of particularly the rural population of the existence of ITN and their potential benefit for health as well as economic burden to the families.
- Insufficient penetration of the commercial ITN distribution networks in the rural areas resulting in poor availability and visibility of the products (nets as well as insecticide).
- Insufficient promotion and opportunities for net re-treatment or treatment of previously untreated nets with insecticides through either "do-it-yourself" kits or net treatment services (Commercial or otherwise).

For all three problems, cost/affordability is a key issue but not the only one. This is true for the stocking of nets at rural shops and other outlets as well as for the ability to actually buy nets or insecticide re-treatment by the affected population and any strategy to increase the use of ITN in Uganda must take this account.

A major step towards going to scale with ITNs has been the approval of the malaria component of the Uganda country proposal to the Global Fund to fight AIDS, Malaria, and Tuberculosis (GFATM). An implementation agreement has been signed to provide up to about 2.0 million ITNs during 2005. These nets will be distributed free to the vulnerable populations, the under five year old children and pregnant women. However, there is still a big gap as far as ITN coverage is concerned.

Uganda adopted the public-private mix approach in the distribution of ITNs with a vision of reaching all social classes equitably. There are still parts of the country with displaced persons living in complex situations. These complex situations together with the very poor communities have been designated free distribution of ITNs for their protection against malaria.

2. Items to be provided by the Government of Japan

Despite the increasing effort to promote ITNs in Uganda, a number of gaps still exist. These include:

- Inadequacy of ITNs and net treatment kits for the affected communities
- Lack of community capacity in management of ITN programs including net distribution, correct use and re-treatment
- Irrational distribution of highly subsidized/free ITNs
- Weak ITNs monitoring system

Therefore this is to request for support to procure more nets for the vulnerable population especially the children aged less than five years and pregnant women in the most disadvantaged districts. This request is for at least 30,000 ITNs annually for the next four years.

Item	Specifications	Quantity Year 1	Quantity Year 2	Quantity Year 3	Quantity year 4	Total Quantity
Long-lasting Net/Olyset	Size. 180(W)x190(L)x150(H)cm Shape. Rectangular Mesh. 100 Denier Colour. Light blue Yarn. Polyethrine Other. Four hanging rings Cost/Unit \$ 6.00	30,000	30,000	30,000	30,000	120,000
Total		\$ 185,000	\$ 185,000	\$ 185,000	\$ 185,000	\$ 740,000

Within the framework of provision of the ITNs to the affected persons, the building of community capacity is necessary especially that of CORPs and Community-based workers in the correct use of ITNs.

3. How the above items will be used in the implementation of the program

Although all persons in Uganda are at risk of malaria, ITNs use is more targeted to children below five years and pregnant women. In line with this project, the donation of 120,000 LLINs from the Japanese Technical Cooperation, priority will be given pregnant women living in very rural communities without ITNs outlets. While the 1,790,000 nets approved by the GFATM will be distributed in all 56 districts, the Olyset nets are intended to initiate the systematic rolling out of ITNs programme nationally. The selected districts (Apac, Yumbe and Kibaale) are among the most disadvantaged of the 56 districts of Uganda, where majority of the pregnant women would neither afford nor have easy access to an ITN. Apac District has permanent swamps modified by mud-fish hunting, and is holo-endemic for malaria. The population is currently resettling following a spill-over disturbance of war in the neighbouring district of Gulu. Yumbe District has a totally rural population, and is one of the new districts created a few years ago. Kibaale District is a forested and hard to reach district, with a highly fertility rate and a poor population living in new settlements. In all these three districts, the ITN coverage is currently very low.

This requested 30,000 ITNs annually for the next four years will be distributed in the 3 districts to the vulnerable population in these districts, in a phased manner as shown below:

District	Estimated Target Population	Quantity Year 1	Quantity Year 2	Quantity Year 3	Quantity year 4	Total Quantity
Apac	42,800	7,100	16,100	23,100	10,000	56,300
Yumbe	22,900	22,900	0	3,400	10,000	36,300
Kibaale	13,900	0	13,900	3,500	10,000	27,400
Total	89,600	30,000	30,000	30,000	30,000	120,000

The mode of distribution will be through Ant-natal Care clinics (ANC) in rural health centres. This methodology will assist to improve on ANC attendance and boosts the other strategy of intermittent prevention of malaria in pregnancy (IPT). By the year 2010 the 3 districts are expected to have coverage of about 85%. With such high coverages, the ITNs will have public health benefits by reducing the density of mosquitoes in the communities. During the four years corresponding to the lifespan of the long-lasting ITNs, the intervention is expected to significantly reduce the burden of malaria in the targeted communities, and contribute to the reduction of Maternal, Infant and Under-Five Mortality respectively. Malaria would no longer be a problem in the 3 districts.

4. Justification for ITN promotion in the country

- ITN use is a globally adopted intervention for malaria prevention especially in Sub-Saharan Africa where Uganda is located
- Most common malaria vectors (*Anopheles gambiae*) are difficult to control through source reduction methods
- Malaria vectors are susceptible to insecticide used in the nets
- ITNs are acceptable by the community
- Partnerships are involved in ITN promotion

- To be scaled up under global funding in order to achieve the Abuja targets

5. **Effect/contribution of the above items to the overall program**

- This project will contribute to the attainment of Abuja targets of 60% ITN coverage and the millennium targets of 75%. To this, it was planned that by the end of 2005 a total of 5,139,500 nets would have been distributed to the target groups in order to achieve 60% Abuja targets. However, this may not be achieved as only 1,790,000 nets are expected from Global Funds, in addition to the a few more from other partners including the Japanese Government
- Considering the affordability difficulties that could hinder the achievement of the above target, the contribution of 120,000 ITNs (Olyset LLNs) will increase the ITN coverage. The current plan is to conduct bi-annual net re-treatment campaigns up to 2006/2007 anticipating that the LLNs will saturate the households thereafter
- The project will also build the community based capacity for sustainability of ITNs and re-treatment through increased demand for ITNs after experiencing the benefits
- The project will increase ANC attendance and possibly facility based deliveries
- The project will also contribute to the enhancement of child survival and development through improved pregnancy outcomes and reduced early child morbidity and mortality.
- The ITNS distributed to pregnant women will also indirectly benefit children under the age of 5 years living in the same household and sharing the same nets. These nets will continue to be used with the newborn baby after the woman delivers, and will be passed over to the younger children on issue of another net to the woman in her subsequent pregnancy.
- It will also contribute to the improved economic productivity and school attendance thus contributing to the alleviation and eradication of poverty in the country

6. ***Outline of the implementing agency***

The Ministry of Health of Uganda is headed by the Hon. Minister, assisted by two Hon. Ministers of State; one in charge of Primary Health Care (PHC) and another for general duties. The Ministry is responsible for the health and well-being of the Ugandan population. It guides Parliament in formulating national policies on health and handles their implementation.

The Ministry of Health is currently implementing several big projects with support from the GFATM such as the HIV/AIDs, TB, & Malaria control programmes, the District Health Services Project and the early childhood nutrition and Development Project. The Ministry is also implementing bilateral projects with USAID, DANIDA and ADB on a diversity of health issues.

The proposed project will be implemented by the Department of National Disease Control at the Ministry. The day-to-day activities will be managed by the Malaria

Control Programme which is headed by a Program Manager, assisted by twenty two (22) technical staff. It is housed at the Ministry of Health headquarters, under direct supervision of the Commissioner for National Disease Control.

7. *Partnerships in the ITN strategy*

- The Government of Japan will provide funds for the procurement of 120,000 ITNs phased over the period of 4 years
- Ministry of Health of Uganda will support IEC materials and provide technical support in coordination, monitoring and documentation of the project
- UNICEF will procure and distribute the ITNs to the district and provide technical support in coordination, monitoring and documentation of the project
- Other collaborating partners in the project will include the District Local Governments in the targeted districts, WHO, Malaria Consortium and UPHO.I.D.

(1) 母と子どものための健康対策 (2007 年度)

No.	Item	Quantity	Specification	Price	Procurement Method
1	Long Lasting Insecticidal Net (LLIN)	26,000	Size: 180(W)×190(D)×180(H)cm Color: Blue Shape: Rectangular Denier: 75 or more	174,200 US\$	UNICEF
				198,978 US\$	JICA Uganda

(2) 感染症対策 (EPI) (2007 年度)

No.	Item	Quantity	Specification	Price	Procurement Method
1	Gas/electric refrigerator	160	PIS E3/21-M Dometic (Electrolux) RCW42EG/CF	239,046.40 US\$	UNICEF
2	Flame failure device	20	292.2006.01	242.20 US\$	UNICEF
3	Gas/Electric Thermostat	20	292.9363.00	505.40 US\$	UNICEF
4	Spark plug with cable (1050 mm long)	162	292.8727.01	306.18 US\$	UNICEF
5	Gas jet (butane, 30mbar)	100	292.8787.06	150.00 US\$	UNICEF
6	Thermocouple	120	292.8742.02	300.00 US\$	UNICEF
7	Electric heater, 240VAC	30	173738-26/1	453.00 US\$	UNICEF
8	Thermocouple	30	292 1496-04/2	282.90 US\$	UNICEF
9	Burner jet No. 14	20	172819-02/1	80.60 US\$	UNICEF
10	Electric heater, 240VAC	30	385 06 44 - 18/2	509.40 US\$	UNICEF
11	Thermocouple	30	293 1496-04/2	282.90 US\$	UNICEF
12	Burner jet No. 14	20	200 74 19-21/7	113.20 US\$	UNICEF
13	Starting devise for compressor	20	2.7038089	226.00 US\$	UNICEF
14	Capacitor for compressor	20	6520004	391.20 US\$	UNICEF
15	Electric thermostat	5	2.6520154	114.85 US\$	UNICEF
16	Compressor, Danfoss FR8 6G	5	3.6038754	545.75 US\$	UNICEF
17	Alu-cylinder with R134a (100grs)	5	4.9954073	247.10 US\$	UNICEF
18	Compressor, Danfoss FR8 5G	10	3.603848	1,189.50 US\$	UNICEF

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主な供与機材としては、「感染症」では、ワクチン、コールドチェーン機材（ワクチン保管用冷蔵庫、ワクチン運搬用コールドボックス等）、注射器など。「人口・家族計画」では、避妊具、避妊薬、家族計画の教育用視聴覚・AV 機器など。「母と子」では、助産婦用器具、各種抗生物質など。「エイズ対策」では、検査キット、エイズの教育用視聴覚・AV 機器などがある。

調達方法として、①UNICEF 調達、②現地調達（第三国調達を含む）、③本邦調達がある。

①UNICEF 調達の手続きは JICA 調達部が行っており、コペンハーゲンにある UNICEF の Supply Division に発注している。機材は日本を経由することなく、直接供与先に送られる。

②現地調達は JICA の現地事務所などが調達手続きを行う。

③本邦調達は JICA 調達部で手続きが行われる。

基本統計	
総人口 (1,000 人)	28,816
年間出生数 (1,000 人)	1,468
5 歳未満人口 (1,000 人)	5,970
出生時平均余命 (年)	49
人口年間増加率 (%)	3.2
粗死亡率	15 (人口 1,000 人あたり)
粗出生率	51 (人口 1,000 人あたり)
保健指標	
乳児死亡率 (1 才未満)	79 (出生 1,000 人あたり)
5 才未満時死亡率	136 (出生 1,000 人あたり)
低出生体重児出生率 (%)	12
マラリア	
蚊帳の下で眠る 5 才未満児の比率 (%)	7
殺虫処理を施した蚊帳で眠る 5 才未満児の比率 (%)	0
発熱した 5 才未満児のうち抗マラリア剤を与えられた比率 (%)	-
完全に予防接種を受けた比率 (%) (1 才児)	
結核	92
DPT3	84
ポリオ 3	83
麻疹	86
B 型肝炎 3	84
Hib3	84
女性指標	
合計特殊出生率	7.1
避妊法の普及率 (%)	20
出産前のケアが行われている率 (%)	92
専門技能者が付き添う出産の比率 (%)	39
妊産婦死亡率 (調整値)	880 (出生 10 万人あたり)

出典：2007 UNICEF 子供白書