



Roll Back Malaria



Technical Support Network for Insecticide-Treated Netting Materials

Scaling-up insecticide-treated netting programmes in Africa

***A Strategic Framework
for Coordinated National Action***

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Roll Back Malaria is a global partnership founded by the governments of malaria-afflicted countries, the World Health Organization, the UN Development Programme, the UN Children's Fund and the World Bank. Its objective is to halve the burden of malaria for the world's people by the year 2010 by saving lives, reducing poverty, boosting school attendance and making life better for millions of people living in poor countries, especially in Africa.

If you are interested in becoming part of the Roll Back Malaria movement and becoming part of the global success story in reducing malaria, please write to:



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Preface

PROMOTING increased ownership and use of insecticide-treated netting (ITN) materials is one of the principal technical approaches of the Roll Back Malaria (RBM) partnership and a key component of malaria control strategies in many African countries. In many cases, promoting ITNs involves, not only the public sector, but also the private sector and non-governmental organizations (NGOs). Since there is considerable variation, within and between African countries, both in the capacity of public sector delivery systems and in the current state of private sector markets in ITN commodities, national ITN implementation strategies must be adapted to local conditions.

The Strategic Framework outlined in this document is not intended to replace or supersede existing national strategies, but rather to help in their implementation and further development. It reviews some of the generic issues frequently encountered in sub-Saharan Africa during the integration of public and private sector activities. These include issues of financing and distribution, and how limited public sector resources can be best used to provide the maximum possible long-term public health benefits. Equally important are the problems and opportunities that arise from interactions between the public sector, private sector and NGOs. This framework offers suggestions and guidance as to how the various partners can better understand their different roles in the overall process, how they can help and avoid hindering the efforts of other partners, and how they can work together in a constructive and complementary fashion.

Executive Summary

THE AFRICAN Summit on Roll Back Malaria (Abuja, Nigeria, April 2000) set an ambitious target for expanding ITN use in Africa—at least 60% coverage of high-risk groups by the year 2005. This is a formidable challenge for African health systems, which face many competing demands for scarce malaria control resources. The scale of this task is therefore beyond the capacity of the public sector alone and requires major private sector contributions.

In order to achieve and maintain the Abuja goals, short-term additional funding must be used to build a sustainable system that guarantees access to ITNs for the most vulnerable, while exploiting the entrepreneurial spirit and efficiency of the private sector. Planning such a system raises important issues concerning subsidies and the interaction between public and private sectors. These issues are the focus of this document which examines the lessons learnt from previous ITN projects and reviews the broad strategic options for maximizing the health impact of publicly-funded subsidies. Since the key to success is complementarity between public and private sector activities it also considers the best way to encourage the growth of a vigorous, competitive private sector.

Well-developed commercial markets are relatively efficient as a means of distribution. Experience suggests that buying and selling nets and insecticide supplied through publicly-funded projects is more expensive (costing US\$ 3 to US\$ 15 per net delivered) than through commercial channels. Publicly-funded supply of nets can also inhibit the growth of unsubsidized commercial markets, because people who would have otherwise bought in the free market buy subsidized nets instead.

The framework proposes two key elements for the future: sustained subsidies strictly targeted to vulnerable groups, and a strengthened and expanded commercial market that provides ITNs at the lowest possible prices for the general population. Some of the public sector actions required to bring this about are essentially temporary; others must be sustained in the long term. A national ITN task force or steering committee, including a variety of public, private and NGO partners, can help to facilitate negotiation, coordination and complementarity in this scaling-up process.

Subsidies must be targeted to achieve the maximum possible health impact. There is an urgent need to identify effective mechanisms and clearly define target groups. Targeting pregnant women through antenatal clinics is an attractive option, since protection benefits will extend to the young child while it sleeps with its mother. The form of the subsidy must also be considered. Separating the subsidy from the goods—for example through a voucher system that allows ITNs to be bought

from traders at discounted prices—is preferable since it tends to encourage the development of a healthy commercial ITN market.

Commercial market growth, of the kind already seen in the United Republic of Tanzania, is also essential. Such growth requires public sector assistance, firstly through the provision of an “enabling environment” (including the removal of taxes and tariffs and streamlined regulation of insecticide products), and secondly through a vigorous campaign of demand creation using a variety of approaches and media. Care should be taken to maintain competitiveness, and to avoid favouring one brand over another.

Where the commercial market is not yet well developed, some form of “market-priming” may be needed. This is a temporary, transitional intervention involving the procurement and distribution of ITN goods, and aimed at strengthening unsubsidized distribution channels. Market priming must be time-limited, in order to avoid displacing independent commercial activity and creating a system dependent on subsidy. It must be evaluated in terms of its impact on the market as a whole.

There remain important operational questions to be answered about each of these areas of activity: for example, how to target subsidies effectively, and when to withdraw market priming? The balance between public and private sector activities will vary between countries, according to local conditions, and is also likely to change as commercial markets develop. The public/private balance may be different for nets and for insecticide: there is a much stronger case for subsidies on insecticide. The introduction of nets pretreated with long-lasting insecticide treatment is also likely to create new opportunities.

The Framework

1. INTRODUCTION

Insecticide-treated netting (ITN) materials are a powerful public health tool and can have a substantial impact in Africa: regular use by young children can reduce their overall risk of dying by 20%, and the number of clinical malaria episodes by 50%. Promoting ITN materials is therefore a key approach by the RBM partnership to the reduction of malaria mortality and morbidity.

Although previous ITN projects have yielded valuable lessons, progress towards large-scale coverage in Africa has been slower than in Asia and the Western Pacific. Many African countries now recognize the need for coordinated national programmes rather than local, time-limited projects. This framework deals specifically with the situation in Africa where the majority of the population is at risk of malaria, unlike Asia where malaria risk is localized.

Health infrastructures in Africa are generally weak and inadequately funded. Delivering ITNs is expensive, and other public health priorities must be considered, including the costs of providing effective treatment for malaria in the face of increasing drug resistance. Clearly, the scale of the task of providing ITNs to everyone at risk of malaria is beyond the logistical and financial capacity of the public sector alone.

The Abuja target¹ of 60% ITN coverage of high-risk groups in Africa by 2005 will require some 160 million ITNs, costing about US\$ 160 million per year in materials alone². Distribution and handling will cost the same amount again. Finance of this magnitude is probably not available even in the short term and is certainly not sustainable in the long term. However, over the next few years the prospects are quite good for limited additional funding for malaria control in general, and ITNs in particular. It is therefore important to focus any additional short-term finance for ITNs on building a sustainable system that allows recurrent public expenditure to be focused on the most vulnerable target groups.

The strategy suggested here has two key components. One is the provision of price subsidies targeted to well-defined vulnerable groups; the other is private sector growth. Subsidies are necessary because many people in Africa are simply too poor to afford nets and targeting is needed

1. Target agreed at the African Summit on Roll Back Malaria in Abuja (Nigeria) 25 April 2000.
2. Assuming that a net costs US\$ 3.50, lasts five years, and requires US\$ 0.30 per year for insecticide.



because public resources are limited. Providing subsidies of a worthwhile magnitude (at least US\$1 per net) is only a sustainable strategy if the subsidies are restricted to the most vulnerable members of society. Private sector growth will also be necessary to make ITN materials available to the general public as widely as possible, and at the lowest possible unsubsidized prices.

Fortunately, the prospects are good for combining public and private sector efforts into a comprehensive ITN strategy. Commercial markets supply most of the nets used in Africa and there is evidence that they can grow rapidly when stimulated by public sector actions such as demand creation initiatives and the removal of tax and tariff barriers. There are considerable potential benefits from the creation of a vigorous and competitive market, including substantially reduced prices and increased penetration into rural areas.

Achieving complementarity between the two sectors is the key to success. Price subsidies must reinforce or complement the private sector rather than compete with it. When made available to everyone, subsidized supplies of ITNs tend to replace commercial sales and may inhibit, or even reverse, local commercial growth. Appropriate mechanisms, such as voucher systems and/or effective targeting, which are compatible with private sector growth, must be developed.

The framework outlined here represents the consensus of the RBM Technical Support Network on ITNs, including representatives of major donors. It concerns broad strategies rather than detailed tactics, reviews the strategic options and makes recommendations based on experience. It is intended for use by country-level RBM partnerships in the implementation and further development of national-level strategies and programmes and as a framework for coordinating the activities of different agencies and sectors. Its approach is pragmatic and its goal to ensure that public health expenditure on ITNs has the maximum possible public health impact, especially among those most vulnerable to malaria.

2. LESSONS LEARNED FROM EXPERIENCE

This framework is based on some important lessons drawn from ITN projects:

- The Abuja goals can only be achieved through the combined strengths of the private and public sectors.
- A balance must be found between sustainability and equity: the public sector aims to provide equity, the private sector provides sustainability.
- Compared to public sector distribution systems, the private sector is much more efficient at distributing and marketing nets.
- There is evidence that commercial net markets are flexible and can expand rapidly in response to increased demand.
- Distributing nets through the public sector, NGO and social marketing projects involves substantial added costs, ranging from US\$ 3 to US\$ 15 per net delivered³, excluding the price paid by the user.
- Large-scale and untargeted distribution of no-cost (or highly subsidized) nets is not sustainable and is likely to be counter-productive in the medium and long term.
- When managed by communities, local committees or health boards, ITN programmes based on revolving funds have almost invariably proved to be unsustainable on a large scale and in the long term.
- Demand for nets already exists wherever there is significant nuisance biting by mosquitoes, and can readily be stimulated by demand-creation activities.
- Whenever projects sell nets in an untargeted fashion and at prices lower than in the local commercial market, project sales are likely to replace commercial sales. This “sales substitution” tends to deter commercial traders, and may cause the market to shrink rather than grow.
- In most ITN projects where insecticide has been sold, re-treatment rates have been

3. These figures are crude and unadjusted, and represent simply total cost to the donor, divided by the number of nets delivered.

disappointingly low (usually 20% or less).

- The largest and longest sustained ITN programmes in the world are in China and Vietnam, where users purchase their own nets from the unsubsidized market, but the government provides insecticide at no-cost through a regular net-treatment service.
- The two components of an ITN—the net and the insecticide—are very different commodities, and the appropriate balance between public and private sector roles may be different for each.

A shared vision for the future

The majority of people exposed to malaria in Africa should own and use a net that is either pre-treated with a long-lasting insecticide or is regularly re-treated. The majority of these nets will be purchased in the commercial market. The most vulnerable to malaria will be able to obtain nets at prices that are subsidized by the government, preferably through a system that uses public channels (e.g. MCH clinics) for delivery of the subsidy, but uses commercial distribution channels for delivery of the goods (e.g. a voucher or similar system).

Within the commercial market, prices will be kept as low as possible by economies of scale and by vigorous competition at all levels. Governments will help by providing an “enabling environment” which has two elements:

- a) a favourable fiscal and regulatory environment, e.g. by removing tax and tariff barriers; and
- b) a favourable market environment where demand is high, e.g. by using mass media as well as IEC and health education channels to encourage people to buy nets and insecticide.

The government’s other main role, supported by NGOs, will be to provide a system of strictly targeted subsidies focused on the most vulnerable groups. Strict enforcement of targeting “rules” will minimize the degree to which subsidies encroach upon commercial sales. In this way, public and private sectors play complementary and mutually supporting roles.

3. CREATING A PARTNERSHIP—THE ROLE OF THE NATIONAL ITN TASK FORCE

An essential first step is to create a national ITN task force with representation from all partners including relevant government departments and agencies, multilateral and bilateral donor agencies, national and international non-governmental and civil society organizations, the private sector and research organizations.

The task force’s function will be to co-ordinate and catalyse the scaling-up of ITN coverage at national level. This is likely to include:

- Creating strong political support for RBM in general and ITNs in particular, especially within national and local government structures, but also among all stakeholders.
- Advocacy and soliciting human and financial resources.
- Lobbying for the removal of taxes and tariffs on nets, insecticides and the raw materials used to make them⁴.
- Facilitating negotiations between suppliers and national regulatory bodies.
- Negotiating, planning and setting up mechanisms to target subsidies for vulnerable groups.
- Continuous evaluation and monitoring of the implementation process, particularly the identification and removal of factors hindering commercial sector development.
- Setting an agenda for national and international research into specific operational issues.
- Providing consumer information.
- Coordinating monitoring mechanisms and ensuring quality control.

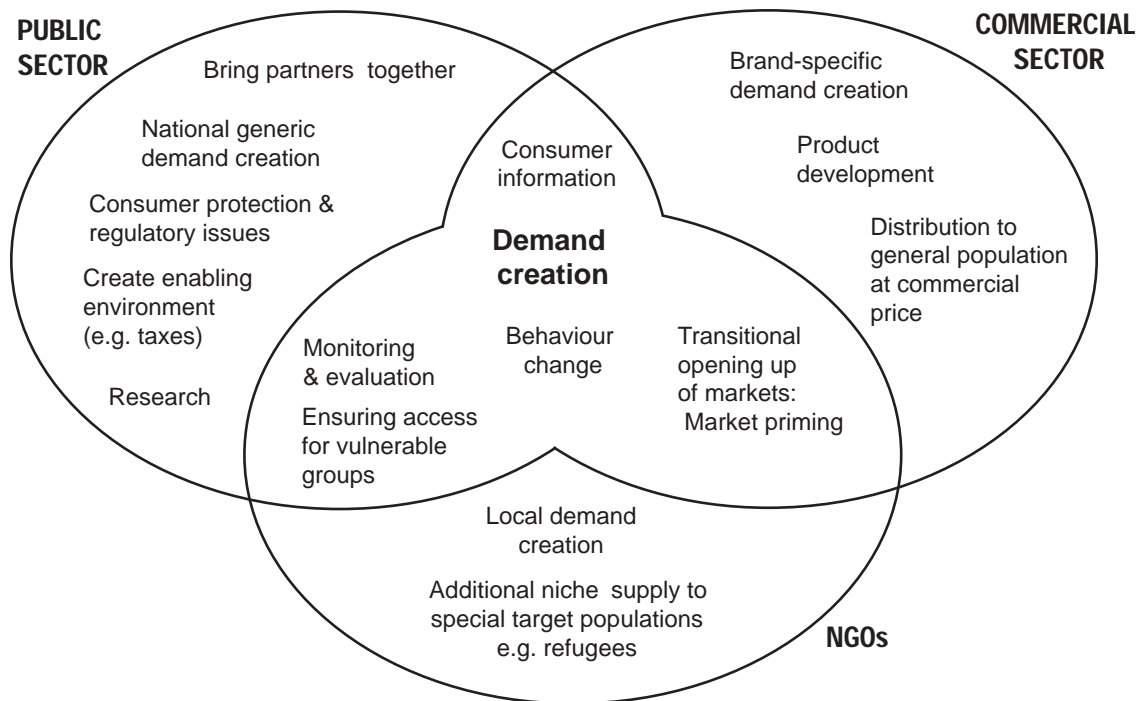
4. Although the raw materials in question are also used to make other textiles, it is still possible to calculate the quantity used specifically for nets, and to allow a tax or tariff rebate on this fraction.



4. ELEMENTS OF THE FRAMEWORK

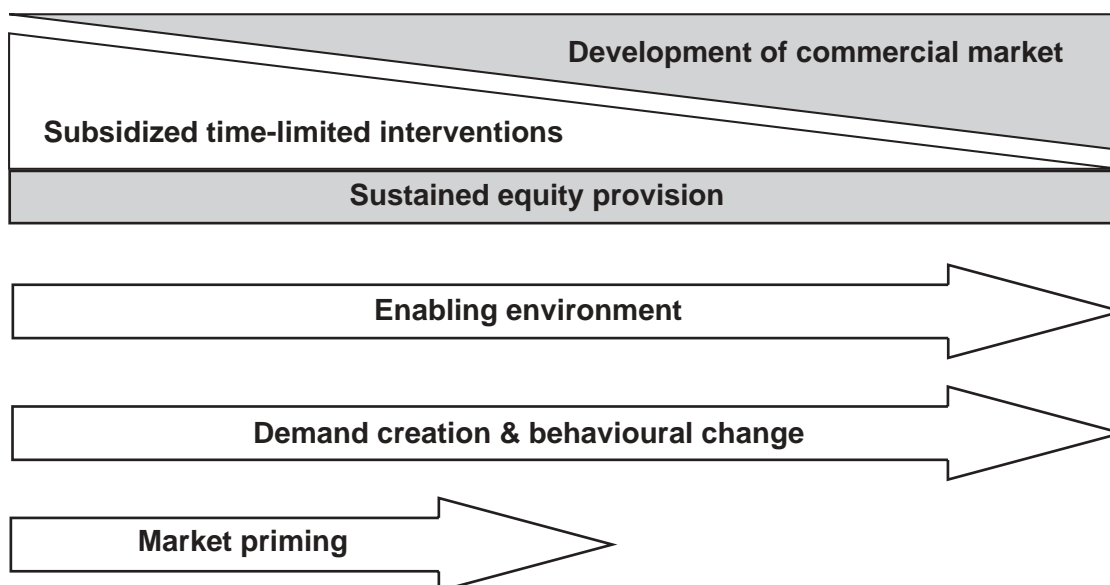
The national framework for implementation will involve a variety of activities, some of which are essentially temporary; others must be sustained indefinitely. Some can only be carried out by the public sector, while others are naturally part of the role of NGOs. The relationships between these activities and bodies are illustrated in Figure 1 (below).

Fig. 1: National scaling up for ITNs: a strategic framework for partners



It is important to recognize that this generic framework needs to be adapted to local country contexts in order to maximize the health impact of both public and private sector activities. The appropriate balance between commercial market development and subsidized approaches will vary from country to country, depending on the state of local markets, and is expected to evolve over time, as in Figure 2 (below).

Fig. 2: Striking the balance between subsidized and commercial strategies



4.1 Public provision of targeted subsidies to maximize public health benefits

Heavily subsidized access to ITNs cannot be provided to everyone at risk of malaria, but there are also limitations to what the private sector alone can achieve. Even the most vigorous ITN markets, with low prices and good penetration into rural areas, cannot provide universal and fully equitable access to ITNs. There is a clear need for sustained, subsidized provision of nets and/or insecticide for the most vulnerable groups. Decisions must be made concerning beneficiaries, delivery channels and the form of subsidies. When defining a target group, planners should estimate the amount of recurrent funding available: if the target group is very large, the amount of subsidy available to each individual may be so small that it is not worthwhile.

Who should benefit and how can they be reached?

The primary aim of targeting is to ensure that subsidies have the maximum possible impact. Geographical targeting may be useful in regions where malaria is a localised problem, but less useful where the majority of the population is at risk. Within populations, target groups can, in principle, be identified according to characteristics that are biological (e.g. pregnant women and children under five) or socioeconomic (e.g. the very poor). In practice, it has proved difficult to find a mechanism that can effectively identify the poor, is feasible on a national scale and is hard to cheat. Further efforts to find such a mechanism are urgently needed.

Providing subsidized ITNs to pregnant women has real advantages since it reaches two vulnerable groups at the same time. A net given to a pregnant woman is expected to last until her child is about four years old.

The form of the subsidy I: vouchers and similar systems

Targeted subsidies can be delivered by providing the goods themselves at subsidized prices. However in many cases it is preferable to distribute the subsidy and the goods through separate channels—for example by using a voucher system that allows ITNs to be bought from commercial retailers at a discount. Although experience with voucher systems is limited, they appear to have important advantages. Clinics can operate a voucher system without the cost, inconvenience and risk of handling and storing nets and insecticides. Mothers are given a choice as to what kind of net to buy and where to buy it. Local traders are offered a fairly solid guarantee that demand for nets will increase, and hence a strong incentive to compete for this additional business. This positive impact on the local market gives vouchers a key advantage over the sale of subsidized nets through public health channels, which would normally be expected to have at least some negative effects on commercial sales.

With any system of subsidies, there is a danger of “leakage”. One form of leakage occurs when people outside the intended target group take up the benefits of the subsidy. This can occur in both voucher and subsidized goods systems. When this kind of leakage occurs, the subsidy can be said to be “lost” since it fails to provide the intended health benefit to a vulnerable person. However, a major advantage of the system is that “leaked vouchers” continue to assist the local commercial market.

However, a voucher system requires nets and insecticide to be available in local shops, or available soon after the system is introduced. It is not yet clear whether local traders will always be able to respond quickly to the introduction of voucher systems. Another problem with vouchers, not shared by subsidized goods systems, is the possibility that the voucher will be exchanged for goods other than nets or insecticides. More experience is urgently needed with vouchers to determine how best to ensure they are used for their intended purpose by the intended population.

The form of the subsidy II: selling subsidized goods

To date, the most common way of delivering subsidies has been to supply ITNs at discounted prices. The distribution system has generally been either untargeted or only loosely targeted, allowing people who would normally buy from the commercial market to buy subsidized nets instead. When this happens, the subsidy is wasted, and a commercial sale is lost. If this happens too often, local traders may stop selling nets altogether. This is called “crowding out”, and is a problem that has been neglected by most ITN projects. If a trader’s market is weak, it will be more vulnerable to crowding out than a vigorous market since the number of sales replaced will represent a larger



proportion of total trade. Thus, if the aim of the project is to strengthen the ITN market, the sale of subsidized nets to the general public can be counter-productive.

Subsidies of worthwhile magnitude cannot be made available to everyone, so it is important to concentrate resources on the most vulnerable if the maximum possible public health impact is to be secured. At the same time a subsidized supply system must not displace or suppress the commercial market. It should also be noted that delivering a subsidized supply has proved in practice to be expensive. Many such projects have been built around a community-based or district-based revolving fund, with the ITNs sold on a “cost-recovery” basis. In the great majority of such cases, the revenue obtained from selling nets failed to cover operational costs and the revolving fund failed to sustain the project after the withdrawal of external funding.

Why is selling subsidized nets so expensive? One reason is that ITNs require careful stock control, substantial storage space and transport resources. Another may be the administrative process involved in selling nets. Collecting and managing the money incurs significant expenses, which may even amount to more than sales bring in. If so, the option of making ITNs available at no cost to the user should not be dismissed since it would be more equitable, more efficient and therefore more sustainable.

Even if the per-net operating cost of selling subsidized goods and managing revolving funds could be substantially reduced from current levels of US\$ 3–15 to just US\$ 2 per net, such systems would still be too expensive to cover everyone at risk of malaria in Africa in a sustainable fashion. Even if substantial economies of scale were available, targeting would still be necessary—operating costs of this magnitude are justifiable for a system that effectively reaches the most vulnerable, but not for one that attempts mass coverage. This is especially clear in the many areas where public expenditure on health is less than US\$ 5 per capita per year.

Exploration and evaluation of targeted subsidy systems

Although many ITN projects have made efforts to target pregnant women, few have attempted to evaluate the effectiveness of their targeting system or to monitor leakage. Targeting systems other than those mentioned above also deserve further investigation. More operational experience is needed to learn which systems work and which do not, what problems can be anticipated and how they can be minimized.

4.2 Supporting and stimulating the private sector

The enabling environment

Creating a business environment that encourages trade in ITN products is largely the responsibility of the public sector, but the ITN task force should play a key role in identifying and overcoming barriers to market growth. These include removal of taxes and tariffs, identifying and removing other barriers to market entry, market supervision, co-ordination with the private sector and insecticide regulation.

Taxes and tariffs removal, which has been very effective in stimulating commercial growth in countries such as the United Republic of Tanzania and Uganda, is probably a necessary pre-condition to the stimulation of similar growth elsewhere.

The government also has other important technical functions, such as monitoring for insecticide resistance. Ensuring chemical safety for the public is also a primary responsibility of the government. It is important that all insecticide products, especially those sold for use at home, should be properly registered according to national laws. Unfortunately, the required registration process often acts as a barrier to market entry, partly because insecticide for net treatment is unfamiliar to national regulators. Risk assessment guidelines are currently being prepared by WHOPES in order to help streamline the registration process.

Demand creation

Intense and sustained ITN promotion is urgently needed at both national and local levels. Wherever people are exposed to more than a few mosquito bites per night, the potential for increasing demand is great. Demand creation should be undertaken by all partners—the private sector, the

public sector and NGOs. Those with social marketing expertise can play a role in designing appropriate campaigns. Many African towns have potential suppliers, and at least some commercial activity in nets, so public investment in demand creation may well be cost-effective. In order to realize this potential, it will be necessary to exploit not only traditional IEC and health education channels, but also mass media and advertising. The choice of media and messages should be based on formative research into local perceptions of mosquitoes, malaria, and ITNs.

In general, publicly funded promotion of ITNs should not favour any one supplier (or group of suppliers) over another, in order to encourage competition and avoid monopolization. Care must be taken over the ownership of publicly-funded brands.

Market priming

Public intervention on the supply side—usually involving the procurement and distribution of ITN goods—is sometimes used to promote demand and stimulate commercial markets. Market-priming (also known as “pump-priming”) aims to stimulate unsubsidized commercial market growth (“crowding in”), by:

- a) demonstrating the commercial viability of trading in nets and/or insecticide to potential traders; and
- b) establishing and strengthening the infrastructures and trading networks needed for vigorous and competitive commerce.

The contribution made by market-priming will be most valuable where there is currently no commercial activity. It is less appropriate in urban areas where commercial trade already exists. Market-priming activities can range from a simple and direct supply-side subsidy—such as paying suppliers a premium for every net distributed and sold—to creating a complete subsidized distribution system for local retail outlets.

Market-priming is a temporary, transitional intervention. Its aim is to build demand and strengthen unsubsidized distribution channels. Traders will not enter a new market until they are confident of sales, and this is unlikely to happen until the subsidized supply has either been withdrawn, or has been restricted to a limited target group.

The use of market priming must be time-limited and criteria must be defined for initiating the exit process. Without a time limit, market priming would probably create a subsidy-dependent delivery system, and displace existing independent commercial activity. Similarly, the volume of goods procured and sold through subsidized market-priming activities should be limited according to previously agreed criteria. Most importantly, the success of market priming should be measured, not on the basis of its own sales, but primarily in terms of impact on unsubsidized commercial sales, and its contribution to overall commercial market growth. This means monitoring markets, and appropriate methods and indicators for this purpose are now being developed. Unfortunately, the criteria that should be used to guide the withdrawal of market-priming supplies are not yet well understood, and more experience is urgently needed.

In the case of ITNs, social marketing should be a combination of sustained demand creation and time-limited market priming. It should not be used as a fallback in the event that a commercial market fails to develop.

4.3 *Other subsidized distribution systems*

Two other distribution systems should also be mentioned, although neither has a role in the framework outlined here.

Emergencies

Complex emergencies and natural disasters are distinct situations in which the distribution of ITNs at no-cost is justified. Such distribution is essentially a temporary intervention, and its purpose is to provide immediate relief. The intervention is targeted geographically, but not usually to particular social sub-groups. In the immediate aftermath of the emergency, effects on the commercial market are irrelevant, although longer-term strategies must be sought in due course.



Revolving funds

Local health teams and local community development organizations often try to set up revolving fund projects to support trade in nets. Despite their value to community development, these are not generally efficient ways of delivering nets—the projects require substantial micro-management and external technical support, and the revolving funds do not revolve once external funding is withdrawn. Coverage achieved tends to be expensive when compared to commercial systems: more than US\$ 3 per ITN delivered, according to experience so far. Such community-based approaches therefore do not lend themselves to the scaling up of ITNs on a national scale.

5. INSECTICIDE FOR NET TREATMENT

Insecticide for net treatment is still an unfamiliar commodity in Africa. Nets are well-known and tangible household utilities, recognized even in places where net ownership is rare, and nets are available through commercial channels in most large African towns. Insecticide, by contrast, is invisible, intangible and unfamiliar: its commercial availability remains extremely limited. Although treating a net approximately doubles its effectiveness in public health terms, this additional benefit of the insecticide is not as easily perceived by users as the benefits of the net itself. Most ITN projects have found that it is easier to stimulate demand for nets than demand for insecticide.

The prospects for the commercial market are thus much clearer for nets than for insecticide. It may therefore be appropriate to plan a different balance between the public and private sectors for insecticide distribution with a stronger role for subsidy through publicly-funded channels. This is the system used in the largest and longest-sustained ITN programmes in the world, in China and Viet Nam, where governments provide insecticide re-treatment at no cost to the user, but ITN users must buy their own nets from the commercial market. This system has several advantages. First, it recognizes that a treated net not only protects the user, but also gives partial and indirect protection to others sleeping nearby, and that market forces alone can therefore not be expected to achieve adequate levels of coverage. Second, provision of no-cost net treatment will presumably provide a strong additional incentive for buying a net. In Asia, these re-treatment services are mostly built on the same systems that previously organized and carried out residual house spraying, and the same system may work in some parts of Africa.

New and emerging technologies for factory treatment of netting materials mean that there are now good prospects for the development of long-lasting and wash-resistant treatments, possibly even treatments that will last as long as the net itself. The advent of long-lasting treatment techniques will soon raise a number of new issues and opportunities for national and regional ITN planners. It is likely that new mechanisms of subsidizing insecticide will become possible, for example by supporting the transfer of the technology to African manufacturers. These manufacturers currently sell millions of untreated nets into local African commercial markets, and the possibility that their products could be easily and cheaply transformed into long-lasting ITNs appears to be an attractive opportunity for highly cost-effective intervention. However, care must be taken that any such intervention fosters, and does not stifle, competition between alternative technologies. In any case, consumers will need clear and independent information on the qualities of different products.

In the meantime, it must not be forgotten that there are many millions of nets already in use in Africa, of which the great majority remains untreated. The process of introducing long-lasting treatments will take time, so effective re-treatment strategies will be needed for several more years.

6. CONCLUSIONS AND NEXT STEPS

The public sector activities outlined in this framework will require substantial public and international investment. Long-term support will certainly be needed for sustained provision of targeted subsidies to vulnerable groups, and may also be needed for demand creation and to ensure that nets remain appropriately treated with insecticide. Shorter-term support is needed for market priming and other market development activities, and for facilitating the development, testing and dissemination of long-lasting net treatments.

As already stated, the strategic framework and options suggested here are not intended to be a rigid prescription for a regional programme or plan of action. Rather, they are intended to guide the further development of national ITN strategies, and to assist the process of ensuring coordination and complementarity, which are necessary to maximize the health impact of both public resources and commercial activities.

It is important to acknowledge that there remain important gaps in planning—for example, the medium-term strategic options and methods for ensuring public-private complementarity are reasonably clear in the case of nets and net coverage, but much less so in the case of insecticide treatment and re-treatment. There are also several important points where understanding and experience is still too limited to allow specific, detailed recommendations. These include:

- how sustained subsidies should best be targeted and delivered, including voucher systems;
- how to plan for the withdrawal of market-priming (i.e. untargeted) subsidized supplies;
- branding, including how to strengthen demand without favouring one brand over another;
- development of methods and indicators for monitoring markets.

More generally, there is an urgent need to develop and disseminate indicators for monitoring the implementation of scaling-up programmes, including operational processes, coverage and impact. Useful indicators have already been developed in some cases—such as measuring ITN coverage and use at household level—and are beginning to be widely used, although the resulting data are not yet thoroughly analysed. In other cases, monitoring tools and appropriate indicators are still being explored. These include indicators for the evaluation of targeting methods, and monitoring commercial market development, in particular the impact of public sector activities such as tax and tariff changes and market priming supplies.

It is therefore anticipated that the framework presented in this document will continue to evolve, not only as a result of the advent of new technologies (e.g. long-lasting insecticide treatments), but also as more experience and a better understanding is gained of the process of scaling up. In the meantime, it is hoped that the suggestions offered here will help to stimulate and accelerate this process.

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