Sanitation Market Shaping

Strategy Brief

Background

In 2015, 892 million people across the world practiced open defecation, while an additional 856 million people lacked an improved sanitation facility (WHO/UNICEF, 2017). The Sustainable Development Goal (SDG) target 6.2 is, by 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations. UNICEF's commitment to meet this challenge is stronger than ever. From 2018 to 2021, we have pledged to support 250 million people to abandon open defecation and 60 million people to gain access to at least basic sanitation services.

While we will rely on proven strategies such as demand creation and systems strengthening to support governments to deliver sustainable services at scale, new accelerators are needed. One of the key programming approaches adopted in the UNICEF global strategy for WASH (2016-2030) is to build large-scale sustainable markets for sanitation goods and services that balance demand and supply.

The strategy also highlights how support is defined based on the specific context of sanitation in communities (Figure 1). Demand creation is critical in communities with high open defecation, while the need to focus on supply is especially critical in communities where open defecation is low but there are high proportions of unimproved latrines (i.e. where demand exists but the availability of affordable and aspirational sanitation solutions is limited).

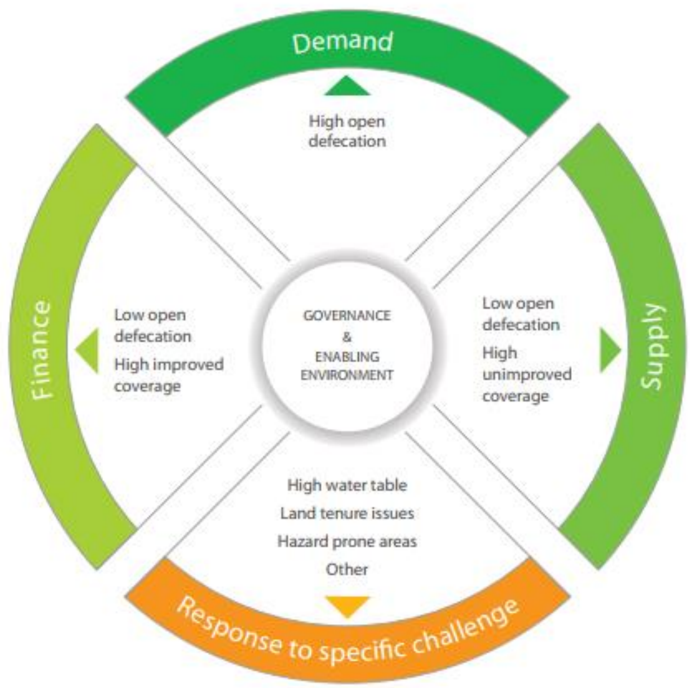

Figure 1: Context-specific sanitation programming

Given that many markets for sanitation goods and services in low-income countries are very weak and poorly developed, there is a need for governments and development partners to work together to influence and shape markets to ensure that products and services are available and affordable to those who need them. It is in this context that UNICEF has developed this sanitation market shaping strategy.

> ***Sanitation market shaping*** *is a combination of carefully-targeted catalytic actions, selected on the basis of in-depth market analysis, designed to stimulate a diverse range of appropriate sanitation services, products and suppliers, and ensure the market as a whole remains healthy and sustainable.*

We do not define market shaping as a rigid series of steps but as a combination of actions tailored to a specific market context. This paper will outline the main market shaping actions from which to select. The precise combination of actions can be determined only on the basis of a thorough analysis of the target market and desired outcomes.

Objectives

The overall aim of this strategy is to help create healthy and sustainable markets for sanitation goods and services, which ensure that basic and safely-managed sanitation services are available to all populations, especially those that are currently unserved. A healthy market can be defined as one in which:

- there is adequate demand for sanitation products and services from all segments of the population that require these;
- suitable products and services are readily available from a competitive, reputable and reliable supplier base;
- products and services are fit-for-purpose (high quality, culturally appropriate, acceptable and convenient) and affordable to customers; and
- products and services are supplied in a sustainable manner (including local production where appropriate).

From an equity perspective it is also important that markets are inclusive and reach all potential customers, including those at the bottom-of-the-pyramid (BOP) and that households' desires to benefit from improved sanitation are met.

The desired **outcome** of this strategy is to support country programmes to facilitate access to **at least 60 million household toilets by 2021**.

This will be achieved via the following **outputs**:

- increased demand for sanitation products and services;
- increased financing for demand and supply-side market interventions;
- increased range of appropriate improved sanitation products in specific markets; and
- increased affordability of appropriate household sanitation products for bottom-of-the-pyramid customers.

Market shaping actions must be designed to target the root causes of market shortcomings (e.g. supply/ demand risk imbalances, inappropriate technologies, high transaction costs, information, capacity etc.) that can improve the market health, dependent on the local market development context.

Guiding principles

UNICEF's engagement at the global and regional levels will be driven by national and subnational sanitation priorities and needs. UNICEF's guiding principles in shaping sanitation markets are:

- **Equity:** UNICEF will work to ensure that appropriate sanitation products and services reach those without access to basic sanitation services, and new opportunities provided by the sanitation market increase the social and economic well-being of the poorest communities and families; subsidies – whether funds, hardware or other forms – may be considered in line with government policies and equity targeting.

- **Sustainability:** Market shaping actions will be designed with the overall objective of ensuring that sustainable markets function independent of external support, with increasing resilience to shocks and stresses that would bring disproportionate impact on the poorest children.
- **Impartiality:** As a UN agency, UNICEF remains impartial and all procurement activities are subject to public procurement policy, which is relies on principles of fairness, integrity and transparency.
- **Information disclosure:** UNICEF is committed to making information about its programmes and operations, including financial data, available to the public, to ensure the effective participation of all stakeholders in the achievement of its mandate.
- **Partnership:** On an issue as complex and systemic as the development of sanitation markets, UNICEF's success will depend on the strength of its partnerships.

UNICEF aims to play a catalytic role in shaping markets for sanitation products and services. This will entail working closely in support of governments' sanitation programmes and will utilize UNICEF's convening power and role as an honest broker to analyze markets and provide information, encourage market entry and diversity, link suppliers to markets, drive innovation (of toilet systems, technologies, components and related services), field test new products and service delivery models.

Scope of strategy

The sanitation market can be considered to include the entire sanitation value chain from containment through emptying, transport and treatment to reuse/disposal (Figure 1). In this context, we separate the market into two distinct categories: **containment** (relating to toilet facilities and their construction) and **management** (relating to emptying, transport, treatment and reuse or final disposal).

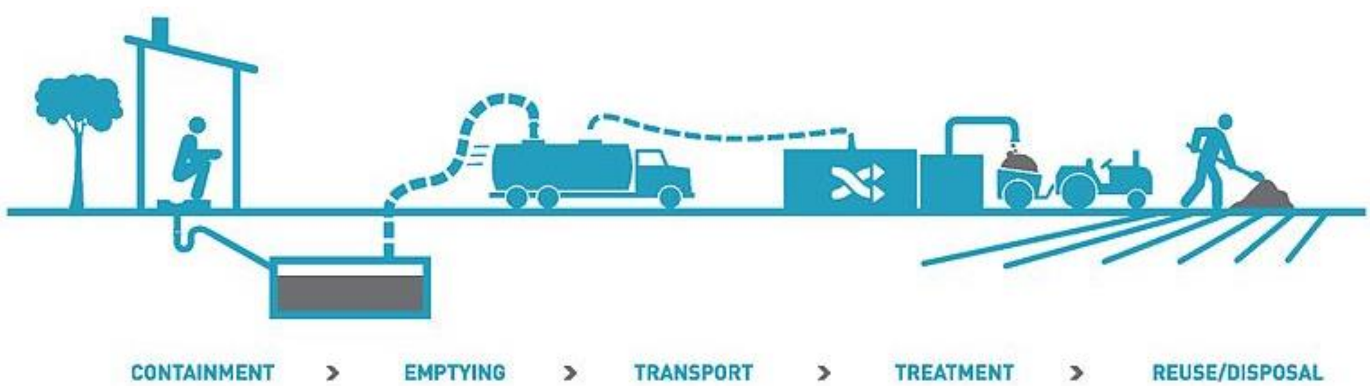

Figure 1: Sanitation value chain (Source: BMGF, 2010)

Containment is primarily a household decision, where the nature of the facility and local variance means that providing standardization of products or toilets is difficult. Containment can be defined in a market context as a combination of a product and service industry, which we will refer to as a toilet 'product system'. This product system is a package of different construction materials, sanitary ware and construction services, which must be combined in order to provide access to toilets. As such, there are a multitude of alternative configurations of these material and service packages that make up a toilet product system within any given context. The best option that balances the trade-offs between viability for local business retailers, customer desirability and technical public health feasibility, will depend on sub-national local variations in market conditions and consumer sanitation cultural preferences.

The scope of this strategy is primarily related to containment, since there is a critical need to end open defecation and ensure access to adequate toilets. However, since the indicator for SDG 6.2 relates to the population using safely-managed sanitation services, there is a need to go beyond this and consider services related to management also.

Management or more specifically, faecal sludge management (FSM), is generally a more structured service-based market in which government plays a more substantial role, especially in terms of sewered sanitation. For off-grid solutions, the service entails transport and safe disposal, and sometimes treatment or reuse.

The strategy aims to expand the reach of existing products available to consumers today and ensure that affordable and desirable products are produced and available in local markets, while exploring opportunities to develop new business models for toilet construction and FSM, as well as new products for both basic and advanced service levels. Such products will include transformative technologies which tackle both containment and treatment in off-grid systems. Large scale trials of new products will have longer timelines and will require exploring new financing mechanisms, new manufacturing and importation arrangements, and new business models for service delivery.

While UNICEF has considerable experience in market influencing in other sectors, such as health and nutrition, to date we have not engaged in sanitation market shaping at scale. While many of the broad principles and lessons from other sectors can be applied, there are some notable differences specific to sanitation markets, especially related to containment:

- individual households are the main customers in rural and peri-urban areas, with wide variation in ability and willingness to pay;
- in urban areas the public sector plays a more prominent role as investor for public health and resource recovery reasons;
- there is considerable diversity of preferences and customs for toilets, related to local context;
- a finished toilet is not a single product but depends on a ‘product system’ comprised of multiple components, materials and construction services;
- potential customers can be very dispersed geographically, including in remote rural areas, making it difficult for markets to reach;
- a toilet is designed to last for many years, so repeat purchases by individual households are rare, (although there may be a need for ongoing payment for services such as pit emptying or sewage);
- there is a general lack of industry standards and quality assurance criteria;
- distribution systems and market characteristics are highly diverse.

These market characteristics mean that potential market shaping actions may address the demand side from the household consumer perspective, as well as that of the public-sector service provider. They also mean that different approaches and actions will be required for rural and urban contexts. Where markets are poorly developed, market shaping efforts may concentrate first on strengthening the enabling environment, while in more established markets, efforts may focus on improving the quality and affordability of products and services (e.g. through financing and innovation interventions).

Market shaping actions fall into seven broad areas of engagement:

- **Analysis:** sanitation sector and market asssessments to determine where intervention is needed;
- **Convening:** bringing government, development partners and the private sector together to foster partnerships, share information and plan solutions;
- **Advocacy:** strengthening the enabling environment by advocating for market-friendly policy changes, standards, regulatory mechanisms etc.;
- **Financing:** introduging new financing mechanisms to facilitate households' ability to pay and to catalyse private sector engagement in the provision of affordable products and services;
- **Concept proofing:** developing and testing new service delivery and business models for sanitation;
- **Innovation:** catalysing innovation, testing and scaling up new sanitation products and technologies;
- **Capacity building:** strengthening the capacity of the private sector to deliver appropriate goods and services.

Market opportunity

Figure 2 presents the number of potential first-time users of toilets (i.e. those currently practicing open defecation) and the additional number of potential new users of improved sanitation facilities by region in 2015 (WHO/UNICEF, 2017).

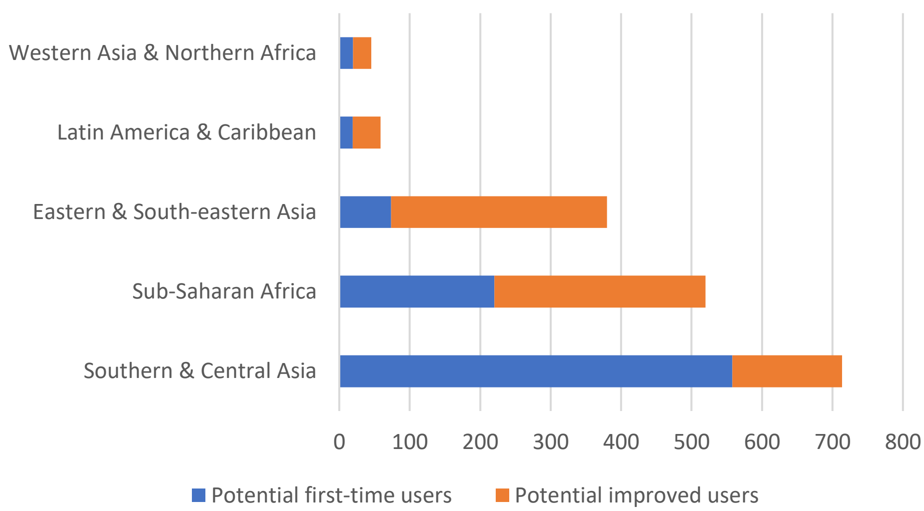

Figure 2: Potential new-users of sanitation by region (millions), 2015

This shows clearly that the potential size of the market is huge, especially in Southern and Central Asia, Sub-Saharan Africa and Eastern and South-eastern Asia. The number of potential first-time users is especially high in Southern and Central Asia, dominated by India with 522 million people. In Sub-saharan Africa the number of potential first-time users is 220 million. If users of unimproved sanitation facilities are factored into the equation, the number of potential users of improved sanitation products increases significantly; in sub-Saharan Africa the number of people lacking even a basic sanitation service is more than 500 million. In Southern and Central Asia, the total population lacking basic sanitation is more than 700 million. These numbers become even more significant when population growth is considered.

In 2015, only 39% of the world's population used a safely managed sanitation service; that is excreta safely disposed of in situ or treated off-site (WHO/UNICEF, 2017). Hence the potential market for improved FSM services is even more far-reaching.

Market shaping actions

There are several different market shaping actions, summarized in Table 1 below.

Table 1: Market shaping actions	
National assessment, consultation and planning	Assessment of opportunities and limitations for market-based sanitation; development of sector plans
Market assessment	*Demand assessment:* user needs, preferences, ability and willingness to pay; market size and segments *Supply assessment:* available products and services; sanitation businesses and supply chains; barriers and incentives
Demand activation	Design, testing and implementation of promotion and marketing activities
Industry consultations	Information sharing; identification of barriers and opportunities; strategic planning
Strengthening supply chains and business models	Development of target service profiles (TSPs); capacity building partnerships; testing new business models
Market enablers	Support to development of appropriate policies, standards, guidelines, regulatory frameworks and processes
Consumer financing	Introduction of micro-credit options and market-compatible social subsidy approaches to reach the poorest
Supply-side financing	Introduction of credit mechanisms, indirect subsidies (e.g. via payment guarantees or volume guarantees) and advance market commitments
Innovation	Development of target products profiles (TPPs); testing product packages and delivery models; scaling-up transformative technologies
Information management	Development of market-based management information systems and monitoring and evaluation (M&E) frameworks

Such market shaping actions are designed to complement UNICEF sanitation programming in demand creation and support to the enabling environment, and are presented as options that can be selected and applied dependent on the local context. Each of these areas is further elaborated below.

National assessment, consultation and planning

The starting point for national and sub-national sanitation market shaping action plans will vary depending on the country context; however, it is important that the opportunities and limitations of market-based sanitation are assessed and that action plans are developed in the context of national sector plans and priorities.

It is envisaged that development of a national market shaping action plan would be led by a sector ministry with the close support (technical and/or financial) of UNICEF and other development partners in country. Ideally, an initial set of data analyses concerning poverty rates, geo-climate-spatial issues and urbanization, such as the World Bank Poverty Diagnostics (WPD) assessments, should be drawn upon prior to embarking on the market assessments detailed below.

Market assessment: demand

The first step in the strategy development process is to assess the current sanitation situation, especially with respect to open defecation and use of unimproved sanitation facilities, including geographical disparities. National sanitation programmes and plans for scale-up should also be captured, particularly those focusing on demand creation, such as Community-led Total Sanitation (CLTS) and Community Approaches to Sanitation (CATS) programmes. This will help to estimate the market size and generate demand forecasts for sanitation products. It is important to assess not only the current market for sanitation-related products but also the size of the untapped potential market. Market segmentation is required to consider different levels of sanitation service and corresponding technologies.

Wherever possible, willingness to pay assessments should be conducted with communities and households in target areas, to determine how much households are willing to pay for sanitation products, and community members should be consulted to determine user preferences with respect to types of sanitation products and technologies. From this, a human-centered design (HCD) approach can be used to develop target customer profiles to inform product gaps and innovation needs.

Market assessment: supply

A detailed analysis of the supply side of the market is essential to assess available products and services, identify gaps and needs, analyse supply chains, and identify existing and potential suppliers and service providers. It is important to assess not only the current market for sanitation-related products but also the size of the untapped potential market. Market segmentation is required to consider different levels of sanitation service and corresponding technologies. Companies and competitors should be assessed to identify/evaluate market share and to identify the dominant forces and potential trendsetters.

Market constraints should be assessed (using the dimensions of the UNICEF product and markets dashboard – i.e. affordability, availability, product appropriateness, quality, market competition, delivery channels, and funding security to facilitate demand). As part of that assessment, barriers to private sector engagement should also be assessed. This will include analysis of the enabling environment such as policy and regulatory frameworks. For the highest cost sanitation products, an analysis of other barriers such as intellectual property, manufacturing inputs, processes and a rudimentary cost of goods analysis should be performed to identify drivers of cost and pricing.

Demand activation

UNICEF has a successful track record in demand creation approaches, such as community-led total sanitation (CLTS) and community approaches to total sanitation (CATS). These are carried out to drive awareness of, and interest in, hygienic sanitation behaviors and improved sanitation products and services, but the linkages between these and market-based approaches have not been strong in many cases. Demand **activation** entails direct sales and marketing activities carried out to persuade customers to convert product awareness and interest into a purchasing decision. CLTS facilitators can be actively engaged in demand activation through marketing of improved products, although a choice of technologies should be provided where possible.

Industry consultations

UNICEF country offices should use their convening power to facilitate industry consultations or market forums at which private companies, government officials and development partners are invited to share information, communicate perspectives and identify strategic steps to strengthen the regional market for sanitation products and services.

To ensure UNICEF's impartiality, it is important that industry consultations are open to all relevant private sector entities and that participants are selected through a transparent process. Participating private companies should include those already active in the sanitation sector as well as those active in adjacent areas, such as construction, cement products, hardware dealers etc., especially where there are few enterprises involved in sanitation. It is also important that an equity lens is maintained in all discussions to ensure that appropriate products are made available to BOP customers.

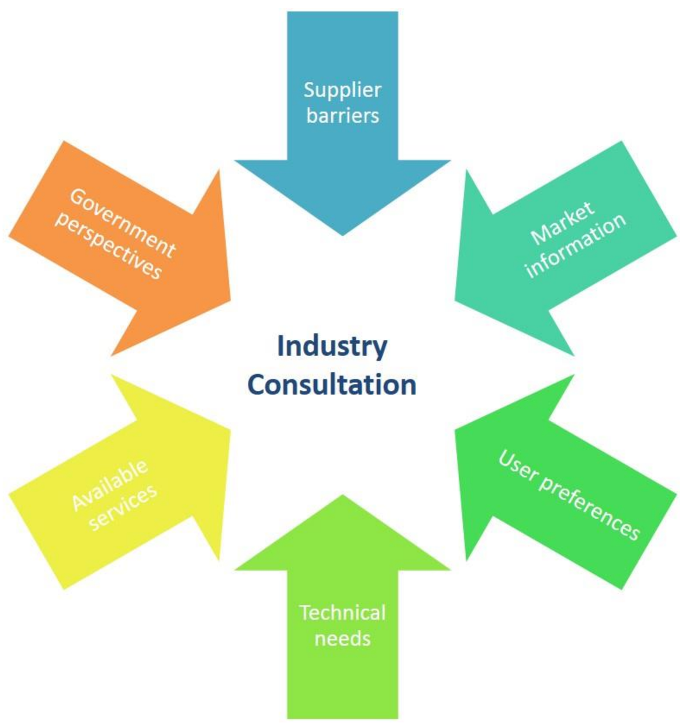

Figure 3: Industry consultation inputs

The industry consultation can be used to:

- communicate market opportunities and potential demand for sanitation products and services;
- communicate user preferences in terms of sanitation technologies and willingness to pay;
- gain a better understanding of supplier information needs, incentives, barriers and priorities;
- review available sanitation products/services and provide feedback to suppliers;

- identify technology gaps and innovation needs;
- launch mechanisms for innovation, such as target product profiles and target service profiles;
- identify common goals and objectives to strengthen sanitation markets; and
- develop action plans to influence national and sub-national markets for sanitation products and services.

Strengthening supply chains and business models

Target service profiles (TSPs) can be developed to define performance criteria for sanitation service solutions and catalyze engagement of the private sector as first-movers in sanitation markets. Such TSPs might involve testing new business models, supply chains or service delivery mechanisms, including turnkey solutions linking products and services, and would be designed as part of an open call to the private sector to propose business solutions that would strengthen local markets. This process must be impartial and transparent to encourage diverse private sector engagement and ensure healthy competition. Capacity building of private sector actors, especially concerning technical/business skills and ability to access finance across the value chain, should also be considered.

Market enablers

The market analysis and industry consultation may identify supply barriers linked to market rules, standards and regulation. Where this is relevant, UNICEF should work with government partners to discuss these barriers and seek solutions to strengthen the local sanitation market. This may entail support to government to set appropriate policies, standards, processes and guidelines. This could include product/technology standards, quality assurance processes, regulation with enforcement, consumer protection and technical guidelines. It could also address research and development, tax regulations, procurement tactics, such as pooled/bulk ordering, and financial issues.

Consumer financing

There may be a need to collaborate with partners to develop market-compatible social subsidy approaches to reach the poorest, as well as financing mechanisms that enable households to access credit to purchase sanitation commodities. Assess to credit may enable some households to gain access to basic sanitation but it is likely that this will not work for all households, especially the poorest. In such cases, direct and indirect market-friendly subsidies – or no regret actions (i.e. actions that will not distort the overall health and sustainability of the market) – may be identified to help people access appropriate products and services. These may include vouchers and conditional or unconditional cash transfers.

Supply financing

There are several supply-side financing mechanisms that can be developed to accelerate and de-risk private sector engagement and encourage market diversity, with some examples below:

- *Volume guarantees* or a*dvance purchase commitments* whereby a a certain volume of sales of products or finished toilets meeting certain quality standards at a certain price are guaranteed (by UNICEF/donor) over a specified period and households are expected to procure products from distributors (possibly at reduced cost), but donor funding is available to ensure the guarantee.

- *Price guarantees* designed as a market guarantee with 'tail price' component paid by households and a 'top-up' component paid by UNICEF/donor (up to a pre-determined maximum) for total household toilet solutions; such hidden supply-side subsidies for the poorest, if applied carefully, need not dampen demand.
- *Access to capital* at concessional rates for 'prequalified' service providers (e.g. those that have undertaken training or achieved a certain defined commercial threshold), to be used to train staff / improve quality standards to a certain level; in return, they commit to service provision (perhaps even at a certain price / maximum cost).

UNICEF efforts to shape sanitation markets will be context specific and there is no single all-encompassing market/financing solution. Each country/ region will likely be able to deploy a range of locally-tailored supply financing modalities. Many of these modalities could be deployed together and offer potential synergies (particularly between the supply, country and consumer financing options).

Technological innovation

Leading on from the market analyses, as well the industry consultation, available products should be reviewed and evaluated in more detail and gaps identified, particularly in relation to the target customer profiles developed during the demand-side market assessment. Where limitations are identified in terms of available sanitation products, components and technologies it may be appropriate to develop Target Product Profiles (TPPs), which take an HCD approach by building on the customer profiles, and set out the minimum and ideal characteristics of suitable sanitation products, such as user requirements, technical performance, maintenance needs and unit costs. The purpose of TPPs is to guide industry to develop products that meet consumer needs. UNICEF may also work with partners to provide a procurement guarantee to incentivize this process and will facilitate field-testing of new products where appropriate. More information can be found at: https://www.unicef.org/supply/index_91816.html.

Information management

A robust market-based management information system, that is part of a larger, rigorous M&E system, should be designed to inform performance on processes and systems to respond to dynamic changes in the market. Such a system should include socio-economic and geographical data with respect to equity and targeting, as well as information on demand creation and activation activities, market prices, sales volumes and toilet construction rates. Where possible, this should be built into sector-wide monitoring processes and systems. Real-time monitoring systems may also be utilized if appropriate.

Roadmap

The proposed timeline for the strategy implementation roadmap across regions is outlined below. This will entail regional or sub-regional activities, such as market assessments and industry consultations, followed by the development of national action plans. Activities at national level will be led by a **sector ministry** with the close support of UNICEF and other development partners. Funding for programmatic activities will be required at country level, alongside financing mechanisms at global, regional or national level. Partnerships will be developed with **finance institutions** to introduce innovative financing models, as well as with **development partners** to work on specific components of the strategy, such as demand creation, business model development and testing, product innovation and information management. **First-movers** from the private sector will also be identified to test business models, support capacity building and undertake product innovation and testing.

	2018			2019			
Activity	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Influencing Sanitation Markets: Global consultation, Copenhagen							
Revised strategy circulated – internally and externally							
Development of innovative financing mechanisms							
Market analysis – Cote d'Ivoire, Ghana & Nigeria (West Africa)							
Development of TPPs and TSPs for West Africa							
Individual consultations with major suppliers							
Industry consultation - Nigeria, West Africa							
Development and testing of guidance tools for COs							
Action plan implementation (West Africa)							
Market analysis – Bangladesh, Nepal & Pakistan (South Asia)							
Industry consultation (South Asia)							
Action plan implementation (South Asia)							
Market analysis (East Africa)							
Industry consultation (East Africa)							
Action plan implementation (East Africa)							
Market analysis (South East Asia)							
Industry consultation (South East Asia)							
Action plan implementation (South East Asia)							
Review of strategy							

Proposed guidance to country offices

In order to support county offices to develop and implement market shaping programmes and action plans, guidance tools will be developed and training provided, to include the following topics:

1. Market-based sanitation assessment and planning;
2. Market assessment;
3. Demand creation and activation;
4. Reaching the poor;
5. A guide to industry consultations;
6. Influencing market enablers (e.g. policies, standards, regulation etc.);
7. Supply chains and business models;
8. Innovative options for supply-side financing;
9. Product innovation;
10. Monitoring results and equity.