

## Supply + Demand = Access

### A profile of Assured Artemisinin Supply System and the ACT Forecasting Consortium

#### Relevance to APLMA AQMTF

**THEME 3:** Enhancing access to and affordability of quality medicines, diagnostics and other malaria control products, including options for increasing production, improving quality of manufacturing, possible incentives for private sector producers and/or improving distribution where appropriate

#### The need

Shortfalls in availability and pricing variations mean there is a critical need for improved forecasting of demand for anti-malaria artemisinin combination therapy drugs (ACTs) to strengthen market confidence. More accurate long term ACT forecasts would enable ACT and artemisinin manufacturers (both natural and semi-synthetic) to plan their production schedules better, **resulting in a more stable artemisinin market, both in terms of supply and pricing.**

#### Artemisinin resistance – a sobering threat

The growth in artemisinin resistance represents a sobering threat to progress towards malaria elimination in the region and emphasises the need for:

- Rapid and complete elimination of resistance – which requires a strengthened commodities market
- Enforced absolute halt to oral artemisinin monotherapies
- Availability of high quality anti-malaria drugs – to continue to treat the disease effectively
- Insistence on confirmed diagnosis before treatment and taking full and correct courses

The growth in resistance has naturally resulted in an increased urgency to discover new effective antimalarial drugs and raises uncertainty on long term viability of the artemisinin market. However, while high quality ACTs remain a viable treatment for malaria, ensuring sufficient supplies and implementing sustainable systems and structures to remove any practice that may encourage resistance to increase, are of critical importance.



Top: *Artemisia annua* nursery plants. Above: *Artemisia* as the plant and as artemisinin  
Photos: Ben Smith/i+solutions

#### Asia-Pacific ACT manufacture

Currently, the number of prequalified ACTs manufactured in the region is severely limited: one Chinese and five Indian companies. It is hoped that this number will grow as more Chinese manufacturers engage in export in response to market growth.

However the most recent intelligence (August 2013) from A2S2 was that artemisinin production is still facing serious uncertainties: demand is down due to a lack of medium to long term ACT forecasts.

Production of artemisinin is also facing competition from the production of semi-synthetic artemisinin, which reportedly has the capacity to cover between 30-50% of possible total artemisinin needs in 2014 (depending on the final ACT forecasts).

These uncertainties are pushing down the selling prices of natural artemisinin to below production costs. Extractors therefore are looking for lower prices for the dried leaves and finding them from some Chinese companies, which in turn affects the revenues of the region's farmers and could affect their willingness to plant in 2014.

#### Options for AQMTF action

- Review existing tracking systems
  - Support efforts to move existing market tracking systems to become more securely institutionalised across the region
- Emphasise harmonisation
  - Promote harmonisation among all stakeholders both within the Asia-Pacific region and between regions
- Expand development of regional tracking and forecasting systems
  - Open access market intelligence for potential suppliers on likely orders
  - Potential product shortfalls
  - Regular price and availability data
  - Real-time regional gap analysis?
- Work through markets to incentivise manufacturers to improve the quality of medicines
- Build the capacity of national malaria programme staff so that countries can better anticipate patterns of supply and demand of medicines and correspondingly better manage the supply chain

#### Looking ahead

The achievement of some, if not all, of the following outcomes are within the power of APLMA/AQMTF to help bring about:

- **Availability** of products everywhere they are needed
- **Affordable** prices both to governments and individuals
- Assurance that all products meet the **quality** standards needed to be effective and delay or prevent resistance
- **Acceptability** of products to users
- A diversity of suppliers to encourage **competition**, keeping up quality, driving down prices and ensuring availability
- Active **research and development** to improve and replace commodities according to evolving needs
- **Opportunities** for local providers

#### ACT demand forecasting

As efforts to control malaria have scaled up in the region and beyond, several resources and initiatives have been set up to gather data of great value to planners, including manufacturers, distributors, buyers and national governments. Two of the key ones are outlined below.

#### Assured Artemisinin Supply System

The Assured Artemisinin Supply System (A2S2) project was established in 2009 and funded by UNITAID to help stabilise and scale up artemisinin production to ensure adequate supplies of ACTs to meet malaria treatment requirements. The purpose of the project was to strengthen the supply chain for ACTs by encouraging farmers to grow *Artemisia annua* and incentivising extractors to sell artemisinin to manufacturers of ACTs. Since the growing, harvesting, extracting and producing of artemisinin takes about 18 months, farmers needed incentives to grow the plant in place of other agricultural products. The project provided loans to support artemisinin extractors to purchase additional stocks of *Artemisia annua* and increase production of refined artemisinin. Although funding has currently ended from UNITAID, the A2S2 project successfully provided market analysis and opinion on the artemisinin production outlook by various stakeholders in the artemisinin/ACT supply chain.

#### ACT Forecasting Consortium

The UNITAID funded ACT Forecasting Consortium issues a quarterly update on demand forecasts. The most recent of these note that despite the uncertainty of future funding streams for ACT procurement, increased clarity is expected once several important decisions are made by the Global Fund. Longer-term commitments by donors would help stabilise the market and allow market stakeholders to prepare effectively.

There are other valuable sources of ongoing tracking of markets including the Bill & Melinda Gates funded ACTWatch and the World Health Organization's HAI project.

#### Further information and sources

Market Landscape for Anti-malaria Commodities, Sylvia Meek, Joaniter Nankabirwa, Malaria Consortium (March 2014)  
The Assured Artemisinin Supply System (A2S2): [www.a2s2.org](http://www.a2s2.org)  
UNITAID Malaria Medicines Landscape 2013  
[www.unitaid.eu/images/marketdynamics/publications/UNITAID-MalariaMedicinesLandscape-2013\\_DEC.pdf](http://www.unitaid.eu/images/marketdynamics/publications/UNITAID-MalariaMedicinesLandscape-2013_DEC.pdf)  
A2S2 Project Update (Jan 2013)  
[www.a2s2.org/upload/5\\_ArtemisininConferences/1\\_2013Kenya/Presentations/Day2/3\\_A2S2ProjectUpdate.pdf](http://www.a2s2.org/upload/5_ArtemisininConferences/1_2013Kenya/Presentations/Day2/3_A2S2ProjectUpdate.pdf)  
Demand Forecast for Artemisinin-based Combination Therapies (ACTs) in 2013-2014  
[www.unitaid.eu/images/projects/malaria/ACT\\_Forecasting/ACT\\_Forecasting\\_Update\\_Q4-2013\\_24-Feb-2014.pdf](http://www.unitaid.eu/images/projects/malaria/ACT_Forecasting/ACT_Forecasting_Update_Q4-2013_24-Feb-2014.pdf)  
Semi-synthetic Artemisinin Project (Sanofi)  
[www.a2s2.org/upload/5\\_ArtemisininConferences/1\\_2013Kenya/Presentations/Day1/3\\_SanofiSSPresentation.pdf](http://www.a2s2.org/upload/5_ArtemisininConferences/1_2013Kenya/Presentations/Day1/3_SanofiSSPresentation.pdf)