



# ARTEMISININ AND GLOBAL ACT AVAILABILITY OVER THE NEXT YEARS

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# ARTEMISININ CONFERENCE 2013

## FROM A RAW MATERIAL SUPPLY CHAIN PERSPECTIVE

- Good artemisinin supply for 2013 **BUT**
- Need for clarity into available funds for ACT procurement, post 2013
- Confirm mechanisms for proportioning GF public and private monies, post 2013
- Pricing above cost
- Artemisinin Resistance
- LLINs, IRS, RDTs
- Semi-synthetic artemisinin and market impact

# SUPPLY CHAIN – INTRODUCTION

- ACT Forecasting & Production
- API Supply – derivatives
- Artemisinin Forecasting & Production
  - Natural
  - Semi-Synthetic (SSA)

## **BUT First:**

- Funds for ACT purchase and distribution – Med/Long Term



# FUNDS FOR ACTs

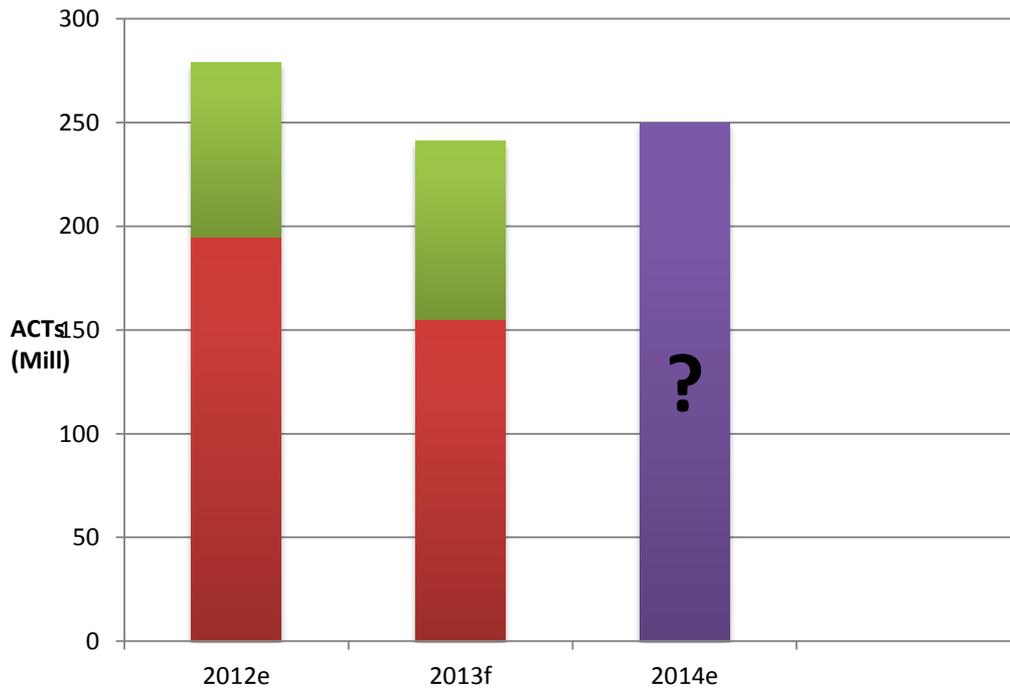


- Without confirmed availability of funds, it is impossible to create accurate and realistic, long term ACT Forecasts (BCG)
- Need to urgently clarify how countries proportion fund for private and public sector ACT need, post 2013 – AMFm
- Result is:
  - Delays in, and shortage of, ACT supplies (SSA production lead time is 4 months and natural around 6 months + API and ACT production time,)
  - Leading to patient distress/mortality
  - Lack of stability within the supply chain
  - Failure of businesses within the supply chain
  - Reliance on trust throughout the supply chain
    - 2005/7 – over forecast for funds available – mistrust (A2S2)
    - 2012 – AMFm uncertainties
    - 2013 on – lack of funding information

# Drug Products : Qualified ACT Producers



# ACT Forecast



## ACT Forecasts

BCG 2012

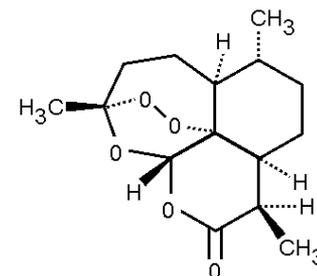
- Total 2014e
- Subsidised Private Sector
- Public Sector
-

# API SUPPLY

- Seven Pre-Qualified API Suppliers (plus 2 integrated manufacturers) for artemisinin based derivatives e.g. Artesunate, Artemether
- Over 30 other, non qualified API producers
- Also have to consider Lumefantrine, Amodiaquine etc

**All dependent on long term ACT Forecasting**

# ARTEMISININ FORECASTING



## A2S2 Supply vs. Demand Forecast in Tabular Format

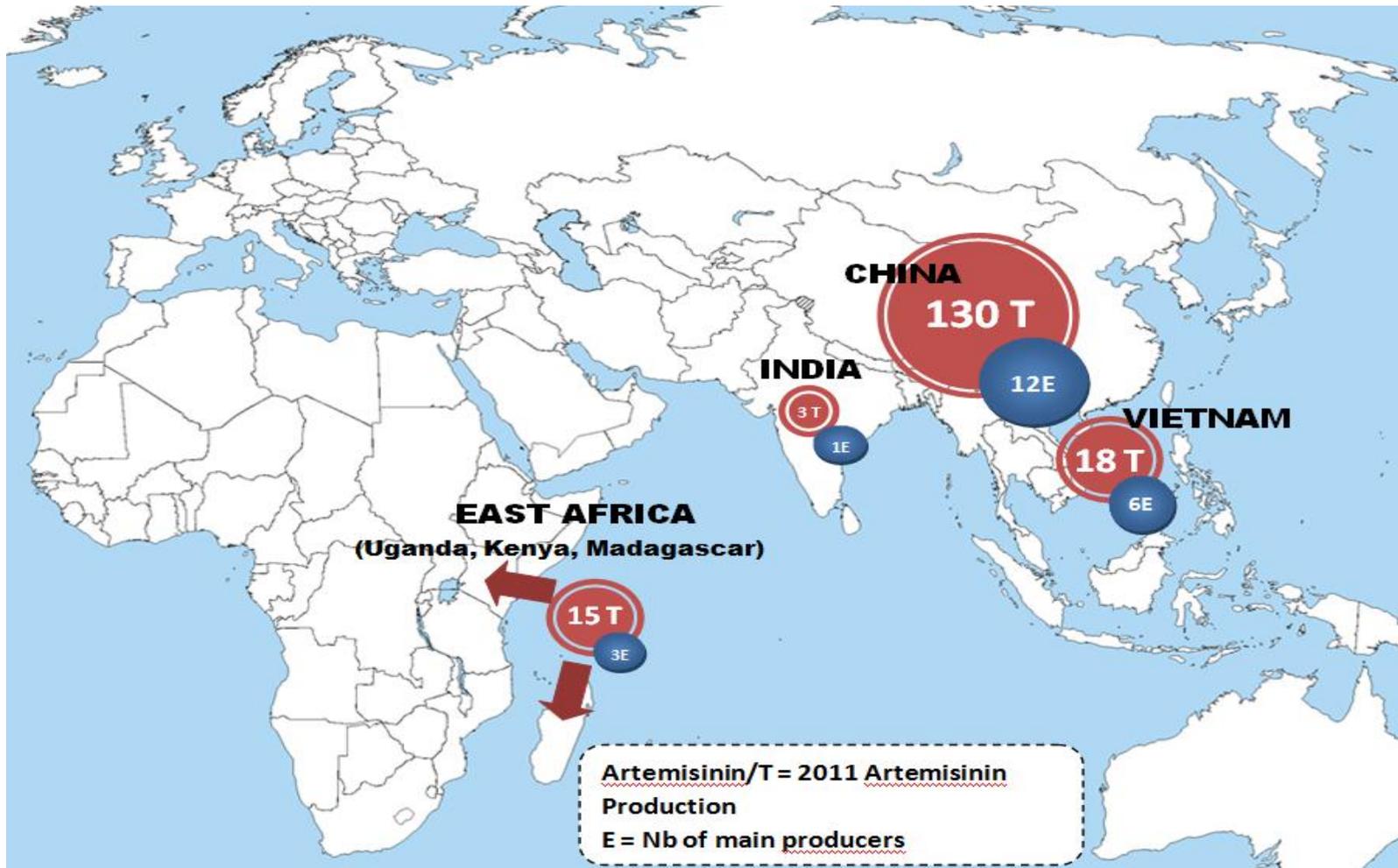
			A2S2 2012 Min. Supply Forecast	A2S2 2012 Max. Supply Forecast	A2S2 2013 Min. Demand Forecast	A2S2 2013 Max. Demand Forecast	A2S2 Provisional 2013 Supply Forecast	2014 Demand Forecast
<b>Demand</b>	<sup>1</sup>	Qualified ACT demands			150	150		<b>?</b>
	<sup>2</sup>	Rebuilding inventories			30	40		
	<sup>3</sup>	Other artemisinin requirements			30	40		
	<sup>4</sup>	Demand as indicated by ACT producers						
		<b><u>Subtotal</u></b>			<b><u>210</u></b>	<b><u>230</u></b>		
<b>Supply</b>	<sup>5</sup>	Surplus supplies/stocks carried over from previous year					35	
	<sup>6</sup>	China	200	220			100	
	<sup>7</sup>	Vietnam	20	25			9	
	<sup>8</sup>	East Africa	4	5			14	
	<sup>9</sup>	Madagascar	12	12			16	
	<sup>10</sup>	India	2	2			4	
	<sup>11</sup>	Semi-synthetic	10	10			35	
		<b><u>Subtotal</u></b>	<b><u>248</u></b>	<b><u>274</u></b>			<b><u>213</u></b>	

# ARTEMISININ PRODUCTION

## Natural Artemisinin

- Presently around 16 ‘serious’ natural artemisinin producers in China, Vietnam, East Africa, Madagascar and India \*
- Other primary extractors in China and India who sell to larger producers and through traders e.g. when prices are high
- Total global production capacity is over 300MT.
- China still has over 80% of the production capacity
- Price fluctuation – viability

## Artemisinin Production



# SEMI-SYNTHETIC ARTEMISININ (SSA)

- Sanofi – One World/Amyris
  - 35MT in 2013
  - up to 60MT 2014
- Max Plank
- SSA initially proposed as a means to supplement natural artemisinin and stabilise prices – but concern over above proposed volumes/timing.
- Whilst future introduction of SSA is accepted as potentially positive BUT it's introduction has to be carefully coordinated, otherwise it could seriously destabilise the market.
- Price sensitivity – Sanofi SSA being sold 'at cost' (subsidised development), whilst natural extractors have to sell 'at profit'

**Our objective is to provide the most effective treatments,  
consistently, at the lowest viable cost  
BUT**

- Need clear and long term commitment of funds for treatments, otherwise there can be no accurate ACT Forecasting. Result: no part of the supply chain can plan their production, leading to continuing delays in treatment supply, and patient suffering.  
Potential growth non approved ACTs and monotherapies
- Need to confirm mechanisms for defining how Global Fund monies will be proportioned between the private and public sectors, and funding for ACT procurement, post 2013
- Need to coordinate the introduction of semi-synthetic artemisinin into the artemisinin supply chain, otherwise prices will continue to fluctuate and production and investment in natural artemisinin production will stop.  
Result: shortage of treatments.
- Viable pricing throughout the supply chain

**THANK YOU**

**QUESTIONS & COMMENTS**