Report on the

Second malaria cross-border meeting for Afghanistan, Islamic Republic of Iran and Pakistan

Peshawar, Pakistan
30 August to 1 September 2004

World Health Organization
Regional Office for the Eastern Mediterranean
Cairo
2004
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1. INTRODUCTION

In real terms, a border between countries means common spaces separated by permeable and active membrane. In border areas for each country, different layers and levels of governmental action are in contact. At the same time, there are different health system organizations and approaches at work. These different approaches lead to different disease management protocols, including drug policy and vector control strategy, and of course different definitions and indicators. This situation becomes more complicated in the presence of population movement across borders, refugee camps, high incidence of chloroquine resistance, falciparum malaria, low coverage of health facilities, undeveloped monitoring and evaluation systems and weak information exchange.

To address the malaria problem in countries generally, and malaria in border areas specifically, coordination is needed in situation analysis, planning, implantation and monitoring and evaluation. For this reason, WHO held a cross-border meeting for malaria control in Chabahar, Islamic Republic of Iran, on 20–22 July 2003. Following on the success of the first meeting, a second meeting was held in Peshawar, Pakistan, from 30 August to 1 September 2004. The second meeting had the following objectives:

• Review the implementation of the recommendations of the "first malaria border meeting" and identify the main achievements and challenges;

• Review the current malaria situation in the neighbouring areas of the three countries, with emphasis on the malaria epidemiology, demographic changes including population movements and refugees and control and preventive measures;

• Develop a plan of action for the coordination of antimalarial drug efficacy monitoring and drug policies in the three neighbouring countries, including the selection of focal points in each country;

• Develop a plan of action for the coordination of monitoring insecticide resistance in sentinel sites and vector control measures in the bordering areas, including the selection of focal points in each country;

• Develop a plan of action for the coordination of malaria epidemic detection and management in the bordering areas and the selection of focal points in each country;

• Develop a mechanism for malaria information exchange between Afghanistan, Islamic Republic of Iran and Pakistan and select focal points in each country;

• Establish a mechanism to develop a joint grant proposal to the Global Fund to fight AIDS, Tuberculosis and Malaria for the implementation of malaria control in the border areas.
Welcome addresses were given by Maj. Gen. Muhammad Aslam HI (M), Director-General of Health, Federal Ministry of Health, Pakistan, and Dr Lalilur Rehamn, Director-General of Health, North-West Frontier Province. Dr Khalif Bile Mohmud, WHO Representative, Pakistan delivered a message from Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean, in which he stressed the importance of malaria control, especially in the border areas between Afghanistan, Islamic Republic of Iran and Pakistan. Mr Inayatullah Khan, Minister of Health, North-West Frontier Province, in his inaugural address said that the assistance of WHO and other organizations was pivotal in strengthening regional cooperation for rolling back malaria.

The programme and list of participants are attached as Annexes 1 and 2. A map of the border areas discussed is attached as Annex 3. Country plans of action are included as Annex 4.

2. OVERVIEW OF THE REGIONAL RBM PERSPECTIVE
   
   Dr Hoda Atta, RBM/WHO/EMRO, Cairo, Egypt

   Malaria is still a public health threat in the Eastern Mediterranean Region, where 287 million people live under risk (60% of the population of the Region) and 15 million clinical cases and 47 000 deaths occur annually. The countries of the Region are categorized into 4 groups according to epidemiological and operational situation. Group 1 comprises malaria-free countries: Bahrain, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Palestine, Qatar and Tunisia. Group 2 countries, which are aiming at malaria elimination, include Egypt, Morocco, Oman, Syrian Arab Republic and United Arab Emirates. For countries in this group, population movements and the threat of malaria reintroduction from endemic areas such as the Indian subcontinent are the main challenges. Objectives of the programme in these countries are to prevent malaria reintroduction in malaria free-areas and eliminate residual foci. Group 3 countries, with more than 53% of the population in the Region and with low to moderate endemicity, include Iraq, Islamic Republic of Iran, Saudi Arabia and Pakistan. Good progress has been achieved in the former three countries (although in the Islamic Republic of Iran there was a significant increase in the number of malaria cases in 2003) in terms of reduction of malaria cases. In Pakistan there is an incomplete and incomprehensive surveillance system with more than 110 000 reported and 1.5 million estimated cases. Group 4 countries with intense malaria transmission (Afghanistan, Djibouti, Somalia, Sudan and Yemen) are responsible for 95% of the malaria cases in the Region. The estimated number of annual malaria cases is more than 2.5 million in Afghanistan.

3. SUMMARY OF COUNTRY PRESENTATIONS

3.1 Overview

Tables 1–3 show the epidemiological situation
Table 1. Trend of reported malaria cases during the past five years in three neighbouring countries

<table>
<thead>
<tr>
<th>Country</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>395 581</td>
<td>203 911</td>
<td>364 243</td>
<td>590 176</td>
<td>591 441</td>
</tr>
<tr>
<td>Islamic Republic of Iran#</td>
<td>23 110</td>
<td>19 716</td>
<td>19 274</td>
<td>15 558*</td>
<td>23 562**</td>
</tr>
<tr>
<td>Pakistan</td>
<td>91 774</td>
<td>82 526</td>
<td>104 003</td>
<td>101 761</td>
<td>104 603</td>
</tr>
</tbody>
</table>

*: include 9122 autochthonous cases

**: include 17066 autochthonous cases

# The most prominent epidemiological finding is more than 50% increase in the total and 87% increase in the number of autochthonous malaria cases in Iran from 2002 to 2003

Table 2. Situation of drug efficacy monitoring sentinel sites in border districts

<table>
<thead>
<tr>
<th>Country</th>
<th>Site</th>
<th>Drug tested</th>
<th>No of patients involved</th>
<th>ACPR</th>
<th>Drug policy update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>Jalalabad (Nangarhar)</td>
<td>SP</td>
<td>96</td>
<td>96%</td>
<td>Drug policy updated in 2003, AS+SP adopted as the first line. Implementation in some districts started</td>
</tr>
<tr>
<td></td>
<td>Jalalabad (Nangarhar)</td>
<td>SP+AQ (25 mg)</td>
<td>100</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jalalabad (Nangarhar)</td>
<td>AQ (25 mg)</td>
<td>93</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Islamic Republic of Iran</td>
<td>Chabahar</td>
<td>CQ</td>
<td>60</td>
<td>13%</td>
<td>Drug policy updated in 2004, AS+SP adopted as the first line. Not yet implemented</td>
</tr>
<tr>
<td></td>
<td>Sarbaz</td>
<td>CQ</td>
<td>57</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>Kurrum</td>
<td>SP+AS</td>
<td>50</td>
<td>Data collection in process</td>
<td>Not yet</td>
</tr>
<tr>
<td></td>
<td>Zhob or Kech</td>
<td>AQ</td>
<td>50</td>
<td>Data collection in process</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Province</td>
<td>District</td>
<td>Total population</td>
<td>Total malaria cases (reported)</td>
<td>No of falciparum cases</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------</td>
<td>------------</td>
<td>------------------</td>
<td>-------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Islamic Republic of Iran</td>
<td>Sistan va Baluchestan</td>
<td>Saravan</td>
<td>205 980</td>
<td>516</td>
<td>2415</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chabahar</td>
<td>208 310</td>
<td>1956</td>
<td>5180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sarbaz</td>
<td>123 379</td>
<td>2141</td>
<td>4681</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>537 669</td>
<td>4613</td>
<td>12 276</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Baluchistan</td>
<td>Gawadar</td>
<td>208 699</td>
<td>5124</td>
<td>9 856</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kech</td>
<td>421 530</td>
<td>3991</td>
<td>6770</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pungur</td>
<td>255 637</td>
<td>3184</td>
<td>2803</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kharan</td>
<td>231 614</td>
<td>1559</td>
<td>1209</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chagi</td>
<td>228 874</td>
<td>2426</td>
<td>659</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>1 346 355</td>
<td>16 284</td>
<td>21 297</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>Nangahar</td>
<td>Nazian</td>
<td>1 089 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gushta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shinwar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hisarack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kunar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paktia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>Khost</td>
<td>300 200</td>
<td></td>
<td>1590***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1 695 300</td>
<td></td>
<td>79 509</td>
<td></td>
</tr>
<tr>
<td>Pakistan</td>
<td>FATA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mohmand</td>
<td>391 363</td>
<td>1440</td>
<td>1810</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Bajor</td>
<td>707 471</td>
<td>3093</td>
<td></td>
<td>457</td>
</tr>
<tr>
<td></td>
<td>Khyber</td>
<td>619 880</td>
<td>2156</td>
<td>2091</td>
<td>530</td>
</tr>
<tr>
<td></td>
<td>Kurram</td>
<td>480 658</td>
<td>2684</td>
<td>3192</td>
<td>443</td>
</tr>
<tr>
<td></td>
<td>North Waziristan</td>
<td>393 479</td>
<td>3940</td>
<td>3838</td>
<td>1371</td>
</tr>
<tr>
<td></td>
<td>South Waziristan</td>
<td>443 111</td>
<td>1253</td>
<td>1386</td>
<td>316</td>
</tr>
<tr>
<td></td>
<td>Baluchistan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q. Abdullah</td>
<td>440 877</td>
<td>350</td>
<td>1264</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>Chaghai</td>
<td>228 874</td>
<td>2426</td>
<td>659</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Zhob</td>
<td>292 141</td>
<td>2396</td>
<td>2954</td>
<td>1194</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3 997 853</td>
<td>19 738</td>
<td>17 194</td>
<td>4515</td>
</tr>
</tbody>
</table>

*: include 8009 clinical cases
**: include 11612 clinical cases
***: include 9978 clinical cases

# In 2003, a significant increase in the incidence of malaria is observed in the border of the Islamic Republic of Iran and Pakistan
3.2 Afghanistan

Afghanistan has recently emerged from 23 years of armed conflict. The Ministry of Public Health is now in the process of rebuilding its shattered infrastructure. Outdated vertical programmes such as malaria and tuberculosis control are to be integrated into the primary health care structure as part of broader health sector reforms.

The malaria situation deteriorated significantly during the years of fighting, not only in terms of incidence: the proportion of cases caused by the potentially lethal falciparum malaria has increased dramatically, and chloroquine and sulfadoxine–pyrimethamine resistant parasites are now widespread. As a result, the Ministry of Public Health considers malaria a very high priority and as such its diagnosis and treatment has been incorporated into the new basic package of health services (BPHS), which is to be provided by all health care providers (Ministry of Public Health and nongovernmental organizations).

In 2003, some 591 441 suspected and confirmed cases were reported indicating an annual national incidence of 197 per 10 000 population. Incidence ranged from less than 7 per 10 000 population per year (southern region) to 1955 per 10 000. P. falciparum accounted for 7% of all confirmed malaria cases, ranging from 0.002% in Wardak province to 31% in Takhar province. A total of 45 418 suspected and confirmed cases were reported from Nangarhar province, which neighbours Pakistan. Falciparum malaria represented 8% of the total confirmed cases. (Source: MRCs, NHMIS in some provinces and nongovernmental organization facility reports)

Over the past 25 years of instability, a wide range of nongovernmental organizations have been engaged in the provision of emergency health care in Afghanistan. Most have been involved in the provision of diagnostic and curative services for malaria, and over the past ten years or so, many working in the east and north-east have become involved in the distribution of insecticide-impregnated bednets. During this period a few key players have emerged in the field of policy development, the most notable of these being HealthNet International (HNI). During 2003, RBM partners managed to distribute 103 221 conventional nets and re-treat other 42 154 conventional nets. They were also able to distribute small amounts of long-lasting nets, i.e. 25 000 permanent (IMC and Malteser) and 15 000 Olysets (WHO).

A multipartite community-based malaria control project continued for the sixth year in Nangarhar province. It included health education, bednet re-impregnation campaign, chador impregnation, larviciding, female awareness and school health programme, targeted implementation of highly subsidized nets, cattle sponging, and a swamp and pond drainage programme. Follow-up studies in areas where this project was implemented showed a significant reduction in malaria cases.

A sentinel site to monitor the therapeutic efficacy of antimalarial drugs was established in Jalalabad city of Nangarhar province in 2003. The site was able to evaluate the therapeutic
efficacy of amodiaquine (AQ) as monotherapy and sulfadoxine-pyrimethamine (SP) plus AQ as a combination therapy. Results of the study are to be published soon.

3.3 Islamic Republic of Iran

Malaria control activities have been integrated into primary health care (PHC) since 1988. At present, there are more than 16 000 Health Houses run by two community health workers (behvarz), one male and one female. In the areas with malaria transmission, malaria control activities are the main responsibility of health workers. At the village level all cases suffering from malaria symptoms are referred to the Health House for blood slide-taking and dispensing of antimalaria drugs.

Usually the blood slides, in particular for the passive cases, are sent to the nearest rural health centre on the same day. About 80% of all slides are examined and receive treatment according to available guidelines in less than 24 hours. In those areas which are not covered by PHC, antimalaria activities are carried out by mobile teams. The areas not covered by PHC are mainly located in the three south-eastern provinces, Sistan va Baluchistan, Hormozgan and Kerman, which report 73% of total malaria cases.

Malaria is still a major health problem in the south-eastern part of the country. Among 23 562 cases reported in 2003, 24% of cases were from Afghanistan and 7.5% had Pakistani nationality. During 2003, 15% of reported malaria cases in Sistan va Baluchistan were from Pakistan. This figure has increased to 24% in 2004 (until the end of August).

Sarbaz, Chabahar and Saravan districts at the border of Pakistan have higher incidences of malaria in Sistan va Baluchistan province. The highest falciparum rates have also been reported from these districts. In these three districts, malaria transmission starts from east at the border and expand to other areas toward the west. Pishin, Koohak and Dargaz health centres, which are the health centres nearest to the Pakistan border, have the highest incidence and falciparum rates among health centres in Sarbaz, Saravan and Chabahar districts. More than 50% of malaria cases diagnosed and treated in these health centres are from Pakistan.

3.4 Pakistan

Malaria continues to be a major public health problem in Pakistan. The geographical and meteorological conditions, economic situation, heavy dependence on agriculture and irrigation systems and huge internal and external population movements result in high malarialogenic potential. Analysis of malaria data for 2003 shows a reported Annual Parasite Incidence (API) of 0.8 per 1000 population. The border provinces of Baluchistan, Federally Administered Tribal Areas (FATA) and North-West Frontier Province (NWFP) have highest incidence of malaria, with 4.2, 4 and 1.32, respectively. Kech, Panjgur and Chagi at the border area with the Islamic
Republic of Iran have highest number of reported cases, and Kech has the highest proportion of falciparum malaria.

The national strategy for rolling back malaria is based on the following key elements: early diagnosis and rapid treatment; multiple preventive measures, including promotion of insecticide-treated materials, targeted use of residual spraying, health education and introduction of biological and environmental management approaches; improved detection and response to epidemics; developing viable partnerships with international, governmental and nongovernmental partners; and operational research.

In the second round of proposals to GFATM, US$ 4.4 million was approved for: strengthening microscopy and improvement of case management capacity in 23 districts including all bordering districts of Baluchistan and FATA; designing and implementing BCC strategy; and scaling up ITN usage in 11 pilot districts through public–private partnership with nongovernmental organizations.

4. TECHNICAL PRESENTATIONS

4.1 ACT: An update on progress in policy and access to treatment

*Dr Hoda Atta, RBM*

In response to increasing resistance of plasmodium falciparum to antimalaria drugs in most malaria endemic areas, WHO has suggested combination therapy, especially ACT (artemisinin-based combination therapy), to improve efficacy, delay development of drug resistance and prolong the useful therapeutic life of antimalaria drugs. Combination therapies recommended by WHO are: artemether/lumefantrine; artesunate + amodiaquine; artesunate + sulfadoxine–pyrimethamine (SP); artesunate + mefloquine; amodiaquine + SP. The last one is non ACT and is recommended only if cost is a major concern and there is proof of good efficacy of both SP and amodiaquine.

At present, 36 countries have chosen ACT as the first line of treatment, 4 countries as the second treatment line, and 14 countries are considering policy change to ACT. Among Asian countries, Afghanistan, Bangladesh, Bhutan, India, Indonesia and Islamic Republic of Iran have adopted the ACT drug policy. It is predicted that in 2005 more than US$ 130 million will be needed for procurement of ACT by public sector. Malaria is a highly treatable disease, and very effective treatment is available in the form of ACT. WHO calls on all RBM partners to unite in a global coalition to enable countries to accelerate access to ACT and make these life-saving medicines affordable to people in need.
4.2 ACT and the Global Fund

Dr Zinga José Nkuni

GFATM is a new financial instrument and is said to be complementary to existing programmes. It brings additional financial resources to countries after submission of technically sound proposals to tackle HIV/AIDS, malaria and tuberculosis. A major challenge in malaria control is the growing resistance of Plasmodium falciparum to chloroquine and SP, mainly in Africa and Asia.

The Global Fund wants countries to use the most effective therapy, which is ACT. ACT has proven effectiveness in multi-drug resistant areas, very fast parasite clearance, prompt reduction in fever, reduction of gametocytes carriage and good cure rates. However, there is a significant cost associated with it.

Some prerequisites are essential for countries to meet before shifting to ACT. Some 27 countries are scheduled for ACT but they all are not at the same stage in terms of grant agreement signing and treatment policy shift. To meet their 2-year ACT needs, the GFATM has to cover a gap of US$ 414,253,943, which represents almost 79.5% of its approved 2-year malaria interventions grants. To narrow this gap, the GFATM wants to use the following tools during its Nairobi reprogramming meeting planned for the end of September: forecasting and calculating ACT needs for Round 4 and reprogramming round 1 to 3, and pooled financing for price negotiations.

4.3 Strengthening implementation of vector control tools in the border areas

Dr Abraham Mvzava

Powerful vector control tools are available for malaria prevention. These include the use of insecticide-treated bednets (ITNs), insecticide residual house spraying (IRS) and larval control, among others. Moreover, the three countries have a history of using at least one of these interventions. However, malaria is still endemic in Sindh, Baluchistan and the NWFP areas of Pakistan; the southern part of the Islamic Republic of Iran and in the northern and eastern areas of Afghanistan.

In-depth analysis of the situation suggests that the problem has to do with weak health systems, rather than a failure of the technical tools of the health system. For example, review of the recommendations from the first border coordination meeting shows that, except for ITN planning, none of the other planned activities were implemented. So as the three countries attempt again jointly to plan and implement vector control interventions in the border areas, serious consideration should be given towards strengthening human, technical, physical and financial capabilities. The absence of vector control focal points to plan, implement, monitor and supervise vector control activities in some of these countries is a sign of weakness in this area.
To strengthen their health systems, these countries need to embark on a strategic direction of implementing evidence-based, cost-effective and sustainable interventions for synergistic impact through the collaboration and partnership of all national stakeholders (private and public sectors). For realization of this long-term objective, a comprehensive vector control situation analysis (which will include the special and unique needs of the border areas) will need to be carried out to identify strengths, gaps etc. and how these are addressed through national IVM plans of action.

In the short term, while planning for the long-term objectives, the countries should coordinate the implementation of the vector control activities in the border areas, share relevant information, forecast their needs, and as much as possible stock emergency supplies of insecticides, nets and spraying equipment.

5. FOLLOW-UP OF RECOMMENDATIONS MADE BY THE FIRST CROSS-BORDER MEETING

- Active coordination of malaria control in border areas was the key recommendation for three countries, which has not yet been implemented.

- No national policies have been developed for coordination mechanisms.

- No action has been taken for establishment of an electronic exchange network for surveillance data.

- Antimalaria drug efficacy monitoring has started in the Islamic Republic of Iran and Afghanistan, and will start very soon in Pakistan, but there is no real networking within these monitoring systems.

- An insecticide resistance monitoring network has not been developed.

- One of the most important recommendations of the first meeting, inviting country representatives for strategic planning meetings, has not materialized.

- Local coordination mechanisms for vector control and data exchange in border areas are not yet in practice.

- No action has been taken for submission of a joint proposal for GFATM.
6. PLANS OF ACTION

On the second and third days of the meeting, 3 working groups, on epidemic management and surveillance systems, vector control and disease management, reviewed the first meeting's recommendations and discussed challenges and constraints. Participants prepared a joint plan of action for 3 main interventions to coordinate their malaria control activities in the bordering areas: 1) epidemic management and surveillance systems; 2) case management; and 3) vector control (see Annex 3 for detailed plans).

7. RECOMMENDATIONS

Recommendations to the three countries

Coordination

1. A border coordination committee (BCC) should be established, with members from the national level and from bordering districts/provinces, with assistance from WHO country offices.

<table>
<thead>
<tr>
<th>Country</th>
<th>National level</th>
<th>Provincial level</th>
<th>District level</th>
<th>WHO</th>
<th>Focal point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>NPM</td>
<td>PPM, Herat and Ningarhar</td>
<td></td>
<td>Technical Officer</td>
<td>NPM</td>
</tr>
<tr>
<td>Islamic Republic of Iran</td>
<td>NPM</td>
<td>PPM</td>
<td>Director Disease Control Chabhar, Sarbaz, Saravan</td>
<td>WHO National Officer</td>
<td>NMP</td>
</tr>
<tr>
<td>Pakistan</td>
<td>NPM, Epidemiologist</td>
<td>PPM, NWFP and Baluchistan and Epidemiologist</td>
<td>EDO Kech and Kurram</td>
<td>Technical Officer</td>
<td>NMCP</td>
</tr>
</tbody>
</table>

2. A focal point from each country should be nominated to be responsible for follow-up of the implementation of the plans of actions at the border areas, recommendations of the border meetings and sharing information among the countries.

3. Meetings of the district/provincial malaria managers of the bordering high risk districts (as in the list) should be held on a 6-month basis.

4. Cross-border meetings of the BCC members of three countries should be held annually, with assistance from WHO, to review the progress achieved and develop or update plans of action.
5. Joint action plans should be developed and implemented and district teams should be established in the high risk border districts, in order to synchronize malaria control operations.

**Information exchange**

6. The BCC should develop a common protocol for early detection of epidemics in the border districts through weekly data collection tools, common training workshops in border districts and immediate sharing of epidemic information.

7. A technical committee should be established for monitoring and evaluation at national and provincial levels. Focal points for monitoring and evaluation should be assigned in the three countries to define and select common indicators for monitoring and evaluation of malaria control programmes in border districts and provinces.

8. A mechanism should be developed for common training workshops in border districts.

9. The exchange of information between the border districts should be put into place immediately (preferably electronically).

10. An information channel should be established on the RBM website in EMRO for sharing malaria information and documents on a regular basis (to be followed up by WHO country officers).

11. All strategic documents such as RBM strategy, ITN strategy, drug policy and treatment guidelines and training modules should be shared among countries by WHO country officers.

**Anti-malaria treatment guidelines**

12. Sentinel sites for monitoring drug efficacy have already been established in some border districts in the Islamic Republic of Iran (Chabahar, Sarbaz and Iranshahr) and Afghanistan (Nangarhar). The process of establishment in Pakistan should be finalized in 2004.

13. Drug policy in Pakistan, including ACT, should be updated once data are available from the sentinel site. Registration of ACT should be started as soon as possible.

**Vector control**

14. The three countries should conduct a vector control needs assessment (comprehensive situation analysis) for the development and implementation of national IVM plans of action. WHO would provide the needed technical guidelines and support.
15. Vector control focal points should be identified and recruited at all administrative levels (national, provincial and district) to plan, implement, supervise, monitor and evaluate vector control activities.

16. As procurement and the maintenance of emergency stocks of insecticides and other essential equipment is a problem not only for these three countries, control programmes should forecast and plan their needs in a timely manner.

**Capacity-building**

17. Countries should continue to develop and produce learning/training materials related to malaria and its control in local languages.

18. Basic and refresher training on malaria and its control should continue to be conducted for various categories of general and specialized malaria/health personnel.

19. Countries should exchange training modules and guidelines in Persian, Pashto and Urdu.

**Operational research**

20. Countries should collaborate with research institutes and universities in developing and implementing relevant applied field research, e.g. assessing the impact of ITN use against vivax malaria, malaria vector distribution/bionomics and susceptibility to insecticides, and drug efficacy monitoring trials, with WHO support.

**Information, education, communication and advocacy**

21. Countries should plan activities to raise the awareness of communities and of the health staff dealing with fever cases, including the private sector.

22. Specific IEC activities should be conducted, targeting the populations at risk to ensure early seeking of medical care in case of fever and use of personal protection measures such as insecticide-treated nets.

23. A national malaria day should be organized on 15 May with a common theme in order to intensify IEC activities for advocacy and mass awareness.

**Resource mobilization**

24. With assistance and technical guidance from WHO, the three countries should develop and submit a common malaria proposal for strengthening malaria control and prevention
activities in the border areas, to be submitted to the fifth round of applications to the Global Fund.

Recommendations for WHO

25. WHO should provide technical assistance to the three countries for analysis of the malaria situation in the border areas.

26. WHO should put into place a mechanism for monitoring and following up the implementation of recommendations in border areas.

27. WHO should support a feasibility study of malaria elimination in the Islamic Republic of Iran and, when possible, in Afghanistan and Pakistan.

28. WHO should facilitate the procurement of ACT.

29. For the optimum utilization of vector control interventions, e.g. indoor residual house spraying, WHO should provide guidelines on when and where to use such an intervention.

30. WHO and other concerned agencies should initiate and explore the feasibility of maintaining stocks with partners such as the Disaster Resource Network (DRN), which has a warehouse in Dubai.
PROGRAMME

Monday, 30 August 2004

9:00–9:30  Registration of participants

9:35–9:40  Recitation from Holy Quran

9:40–9:50  Welcome Address By Maj. Gen. (R) Muhammad Aslam HI (M), Director General Public Health, Federal Ministry of Health, Pakistan

9:50–10:00 WHO Message by Dr Khalif Bi le Mahmud, WHO Representative, Pakistan

10:00–10:15 Overview of the regional RBM perspective and importance of cross-border meeting / Dr Hoda Atta, WHO/EMRO

10:15 –10:20 Objectives of the second meeting

10:20–11:00 Inaugural Address by Mr Inayatullah Khan, Minister of Health, NWFP

Technical Session 1: Review of the current malaria situation in border areas

11:00–11:10 Review first meeting's recommendations

11:10–11:20 Malaria situations in bordering areas in Afghanistan

11:20–11:30 Malaria situation in bordering areas in the Islamic Republic of Iran

11:30–11:40 Malaria situation in bordering areas in Pakistan

11:40–11:50 Discussions

11:50–12:00 Presentations by Dr Atta and Dr Nkuni: ACT

12:00–12:10 Malaria situations in Afghan refugees and pattern of drug resistance by HNI–Peshawar

12:10–12:20 Presentation by Dr Mnzava on rational use of insecticides in vector control and success with ITN implementation.
12:20–15:30  Working groups exploring ways for further meaningful coordination between the three countries for implementation of successful malaria control activities in the bordering districts

15:30–16:00  Presentations from working groups

16:00–16:45  Discussions on the establishment of a mechanism to develop a joint grant proposal to the Global Fund for the implementation of malaria control in the border areas

Tuesday, 31 August 2004

9:30–16:00  Field visit to Torkhum Border and THQ/BHU

Wednesday, 1 September 2004

Technical Session 2:  Presentations and drafting of action plan

9:30–14:00  Review/update existing plans of action for strengthening malaria control and prevention measures in the bordering districts with particular reference to the following:
  Early diagnosis and prompt treatment of cases
  Vector control
  Common malaria information system
  Epidemics detection and management

14:00–14:15  Recommendations of meeting

14:15–14:25  Concluding Address by Mr Tariq Farook, Federal Secretary of Health
LIST OF PARTICIPANTS

AFGHANISTAN
Dr Najibullah Mahboob
Malaria Programme Manager
Ministry of Public Health
Kabul

Dr Mohamamd Younus Nadim
Malaria Control Programme
Herat

Dr Nangialai Ali Shah
Malaria Control Programme
Jalalabad

Dr Ebrahim Haider
PSI
Kabul

ISLAMIC REPUBLIC OF IRAN
Dr Ahmed Raeisi
National Malaria Control Programme Manager
Ministry of Health and Medical Education
Teheran

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Head
Department of Disease Control
Zahedan University of Medical Sciences
Zahedan

Dr Massoud Salehi Shaban
Academic Staff Member
Zahedan University of Medical Sciences
Zahedan
Dr Azizullah Jahnig
Deputy Health
Zahedan University of Medical Sciences
Zahedan

Ms Leila Faraji
Technical Officer
Malaria Control Programme
Teheran

PAKISTAN
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Director
Directorate of Malaria Control
Ministry of Health
Islamabad

Dr Qutbuddin Kakar
WHO Technical Officer RBM
Islamabad

Dr Khalid Iqbal
Provincial Coordinator Malaria
Directorate General Health Services, NWFP
Peshawar

Dr Asghar Jan
Agency Surgeon
Kurrum Agency
Parachinar

Dr Azim Khan
Agency Surgeon
Kurrum Agency
Jamrud

Dr Pir Muhammad Khawaja Khail
Director General Health Services, Baluchistan
Quetta
Dr Amir Muhammad Kakar  
Provincial Coordinator Malaria  
Directorate General Health Services, Baluchistan  
Quetta

Dr Mehmood Sultan Piracha  
Epidemiologist  
Malaria Control Programme  
Directorate General Health Services, Baluchistan  
Quetta

Dr Saleem Baloch  
Executive District Officer Health  
Kech District  
Turbat

Dr Akhtar Muhammad  
Executive District Officer Health  
Chaman District  
Chaman

Dr Haji Khan Muhammad  
Executive District Officer Health  
Chagi District  
Nushki

OTHER ORGANIZATIONS

Association for Social Development  
Dr Nauman Safdar  
Islamabad  
Pakistan

Health Net International  
Dr Iftikhar Ali  
Peshawar  
Pakistan

Mr Naeem Durrani  
Technical Adviser  
Peshawar  
Pakistan
Dr Samad Hani
Technical Coordinator
Mazar Sharif
AFGHANISTAN

Dr Anaick Lengled
Peshawar
PAKISTAN

National Rural Support Programme
Dr Farhana Khan
Project Coordinator
Islamabad
PAKISTAN

Office of the United Nations High Commissioner for Refugees (UNHCR)
Dr Ugbe Benjamin
Health Coordinator
Quetta
PAKISTAN

Westergard
Mr Patrick Sieyes
Regional Director
Kolding
DENMARK

OBSERVERS

ISLAMIC REPUBLIC OF IRAN
Mr Nader Shahbakhsh
Administrative Director
Provincial Health Centre
Zahedan
PAKISTAN
Dr Shahid Afridi
CDC Officer
Directorate of Health Services
Peshawar

Dr S. M. Moazzam Hossi
Project Officer (Nut/CSD)
UNICEF
Islamabad

Dr Sharif Ahmad Khan
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Islamabad

Dr Mubashir Malik
Programme Officer
Directorate of Malaria Control
Islamabad

Professor M. Suleman
Zoology Department
Peshawar University
Peshawar

WHO SECRETARIAT

Dr Hoda Atta, Regional Adviser, Roll Back Malaria, WHO/EMRO
Dr Abraham Mnzava, Scientist (Vector Control), Roll Back Malaria, WHO/EMRO
Dr Ghasem Zamani, STP, Roll Back Malaria, WHO/EMRO
Dr Nkoni Zinga, Medical Officer, RBM, WHOHQ
Dr Ghulam Rahim Awab, RBM, WHO/Afghanistan
Mr Kamal S. Mustafa, Technical Officer, WHO/Afghanistan
Dr Quaid Saeed, WHO Emergency Medical Officer, WHO/Pakistan
### Annex 4

#### PLANS OF ACTION

**A. Epidemics management and surveillance system**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Country</th>
<th>Current situation</th>
<th>Coordination plan</th>
<th>Time-line</th>
<th>Key responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early detection of outbreaks</td>
<td>PAK</td>
<td>DWES is partially functional</td>
<td>To develop a common standard operating procedures for the adjacent districts of the three neighbouring countries; addressing: 1. Border district's profile (total number of districts, population, availability of resources including infrastructure, manpower and financial inputs; endemicity in the area) 2. Training plan for the staff in the border area 3. Implementation 4. Provision of logistic support 5. Identification of Focal Person/Point at each level</td>
<td>September-December 2004</td>
<td>National Director/Prov./FATA Director of malaria control programme</td>
</tr>
<tr>
<td></td>
<td>IRAN</td>
<td>Daily telephone reporting is in place in all health centres, covered under DEWS software and GIS</td>
<td></td>
<td>Already functioning.</td>
<td>National malaria programme manager</td>
</tr>
<tr>
<td></td>
<td>AFG</td>
<td>Immediate report to provincial level, when unusual increase in no. of cases .</td>
<td></td>
<td>September-December 2004</td>
<td>National RBM officer, Provincial RBM officers of Nangarhar, Kunar, Khust, Kandahar, Helmand, Herat provinces</td>
</tr>
</tbody>
</table>

<p>| Early warning of malaria outbreaks | PAK     | DWES is partially functional                                                     | To develop a common standard operating procedures for the adjacent Districts of the three neighbouring countries, addressing: 1. Establishing of meterological data 2. Training plan for the staff in the border area | September 2004 to August 2005 for all the three countries | Ministry of Health (Pakistan); National malaria programme manager (Afghanistan and Iran) |</p>
<table>
<thead>
<tr>
<th>Country</th>
<th>Baseline data sharing</th>
<th>Weak communication, no proper tools such as GIS in place</th>
<th>3. Implementation</th>
<th>4. Provision of logistic support</th>
<th>5. Identification of Focal Person/Point at each level</th>
<th>6. Establish/strengthen Entomological Department for vector control at provincial level of the border districts</th>
<th>7. For Iran:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFG</td>
<td>None</td>
<td>- Weak communication, no proper tools such as GIS in place</td>
<td>3. Implementation</td>
<td>4. Provision of logistic support</td>
<td>5. Identification of Focal Person/Point at each level</td>
<td>6. Establish/strengthen Entomological Department for vector control at provincial level of the border districts</td>
<td>7. For Iran:</td>
</tr>
<tr>
<td>PAK</td>
<td>None</td>
<td>- Assign a Focal person at provincial level; it is suggested that quarterly meetings between the adjacent bordering districts be organized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRAN</td>
<td>None</td>
<td>- Assign a Focal person at provincial level; it is suggested that quarterly meetings between the adjacent bordering districts be organized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFG</td>
<td>None</td>
<td>- Assign a Focal person at provincial level; it is suggested that quarterly meetings between the adjacent bordering districts be organized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| National malaria programme managers |

September-December 2004.
### B. Vector control

<table>
<thead>
<tr>
<th>Activity</th>
<th>Country</th>
<th>Current situation</th>
<th>Planned activities</th>
<th>Time-line</th>
<th>Key responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRS</td>
<td>IRAN</td>
<td></td>
<td>1. Evaluating the effectiveness of First spraying cycle (March–April) in one district (Iranshahr), preferably before the 2nd spraying cycle 2. Explore the feasibility of providing spraying equipment which meets WHO specifications</td>
<td>March–April 2005</td>
<td>MOH&amp;ME + WR IRAN</td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td></td>
<td>Before February 2005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AFG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Evaluating the effectiveness of First spraying cycle (March–April) in one district (Iranshahr), preferably before the 2nd spraying cycle 2. Explore the feasibility of providing spraying equipment which meets WHO specifications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insecticide resistance monitoring sentinel sites</td>
<td>AFG</td>
<td></td>
<td>Setup of 2 entomological sentinel sites in Kunduz and Jalalabad</td>
<td>July 2005</td>
<td>WHO + HNI + MoH</td>
</tr>
<tr>
<td></td>
<td>IRAN</td>
<td></td>
<td>Setup of 2 entomological sentinel sites in Iranshahr</td>
<td>May 2005</td>
<td>NMCP Mgr + Sch.Public Health - Iranshahr</td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>1 existing + 7 additional new districts: Gawadar, Kech, Panjgur, Kharan, Chagi, Pishin, Killeabullah, Zhob.</td>
<td>June 2005</td>
<td>NMCP + MoH Province</td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>Zhob, Kech, Chagi, Panjgur, Kharan trials on LLNs</td>
<td>September 2005</td>
<td>NMCP province and district level + HNI</td>
</tr>
<tr>
<td>Larviciding, BTI</td>
<td>AFG</td>
<td></td>
<td>Will not be done in Afghanistan</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Country</td>
<td>Status</td>
<td>Activities</td>
<td>Age</td>
<td>Region</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>------------</td>
<td>-----</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>PAK</td>
<td>Currently Chemical Larv. Would like to coordinate BTI with Iran, to include training + supplies</td>
<td>1. Iran to provide consultancy (Mr Assan Zehi) to Pakistan, March 2005 2. Pilot study to explore future possibilities, April 2005</td>
<td>March 2005</td>
<td>Iran + Pakistan NMCP, WHO consultant</td>
<td></td>
</tr>
<tr>
<td>IRAN</td>
<td>Currently doing and will continue</td>
<td>Ongoing</td>
<td>NMCP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## C. Disease management

<table>
<thead>
<tr>
<th>Activity</th>
<th>Country</th>
<th>Current situation</th>
<th>Coordination plan</th>
<th>Time-line</th>
<th>Key responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection</td>
<td>AFG</td>
<td></td>
<td>Through routine surveillance system</td>
<td>All the year round</td>
<td>National programme manager</td>
</tr>
<tr>
<td></td>
<td>IRAN</td>
<td>MEWS from district level and province without GIS</td>
<td>Progress programme with GIS</td>
<td>One year</td>
<td>Dr Raeissi</td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>Through routine surveillance system</td>
<td>All the year round</td>
<td>Provincial Epidemiologist/ DD-CDC</td>
</tr>
<tr>
<td>Treatment protocol for uncomplicated falciparum malaria</td>
<td>AFG</td>
<td></td>
<td>Produced</td>
<td>2004</td>
<td>National programme manager</td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>To be updated</td>
<td>July 2005</td>
<td>NPM</td>
</tr>
<tr>
<td></td>
<td>IRAN</td>
<td>CQ + Primaquine first line; Quinine + Fansidar second line. Quinine + Tetracycline third line (new drug policy has been adopted but not implemented yet)</td>
<td>Produced</td>
<td>2004</td>
<td>NPM</td>
</tr>
<tr>
<td>Expansion of diagnostic services</td>
<td>AFG</td>
<td></td>
<td>Planned</td>
<td>July 2005</td>
<td>NPM–HNI</td>
</tr>
<tr>
<td></td>
<td>IRAN</td>
<td>Enough now</td>
<td>Achieved with no plans for further expansion</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>Expansion to all RHCs</td>
<td>May 2005</td>
<td>NPM</td>
</tr>
<tr>
<td>Technical support</td>
<td>IRAN</td>
<td></td>
<td>Existing capacity are enough</td>
<td>August 2005</td>
<td>HNI–NMCP–WHO Kabul</td>
</tr>
<tr>
<td></td>
<td>AFG</td>
<td></td>
<td>Master trainers training conducted; technicians and doctors training planned</td>
<td>August 2005</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAK</td>
<td></td>
<td>Training of master trainers; Training of doctors and technicians</td>
<td>12/5/2004 and August 2005</td>
<td>WHO–NMP</td>
</tr>
<tr>
<td>Drug efficacy monitoring sentinel sites</td>
<td>AFG</td>
<td></td>
<td>Sentinel sites established in Nangarhar, Takhar, Taloqan, Badghis</td>
<td></td>
<td>NMP</td>
</tr>
<tr>
<td>Country</td>
<td>Description</td>
<td>Timeline</td>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRAN</td>
<td>4 sentinel sites activated from 2002 in the bordering districts</td>
<td>Already functional</td>
<td>NMP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAK</td>
<td>4 Sentinel sites Kurrum, Muzafargrah, Mir Pur Khas and Zhob</td>
<td>Oct-04</td>
<td>HNI-NMCP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFG</td>
<td>Planned</td>
<td>September 2005</td>
<td>NMCP-WHO Kabul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRAN</td>
<td>Activity conducted</td>
<td>2004</td>
<td>NMCP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAK</td>
<td>CQ, SP, AQ, SP-AS</td>
<td>October 2004</td>
<td>HNI-NMCP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### D. Malaria Information system

<table>
<thead>
<tr>
<th>Activity</th>
<th>Plan</th>
<th>Timeline</th>
<th>Key Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common indicators and common definitions</td>
<td>All the three countries should develop common indicators and common definitions, which are understandable among them.</td>
<td>6 months</td>
<td>WHO should take the lead role in coordination with national programme managers, provincial programme managers</td>
</tr>
<tr>
<td>Regulations and official issues</td>
<td>There should be Border Coordination Committee with distinct members from bordering districts and provinces; quarterly meetings to be organized in order to have advocacy meetings with government officials for their commitment and political will.</td>
<td>6 months</td>
<td>Federal/ National Health Ministry/ WHO</td>
</tr>
</tbody>
</table>
| Information exchange (technical issues) | 1. Identification of Focal Title  
2. Sharing of common web site on which information is entered and shared and for that governments have to be asked for permission and support | 6 months | Through EMRO                                                                     |