

Accomplishment Report on Malaria Control Program in Bago, Magway Regions and Rakhine State

Supported by Japan Grant Aid and JICA's Technical Assistance

1. Background Information

The Government of Japan have planned to support the Malaria Control Program in Myanmar since 2008. The Notes for Discussion was exchanged and signed between the two countries on 12 September 2008 in Nay Pyi Taw. The H.E U SoeThar, Minister for National Planning and Economic Development and H.E Mr. Yasuaki Nogawa , Japanese Ambassador to Myanmar were took part in signing ceremony on behalf of respective two countries in capital city of Myanmar, Nay Pyi Taw.

The commodities including antimalarials, diagnostic tools , insecticides and sprayers were received in 2009 and 2010. The total amount of support from Japan Grant Aid to two regions and one state was 3.4 million US\$. The commodities were distributed to target areas , Magway and Bago (West and East) Regions and Rakhine State.

2. Target Areas

The target areas supported by Japan Grant Aid on malaria control were Bago (East and West) Region , Magway Region and Rakhine State . These areas are high malaria burden and intense malaria transmission occurred in year round. The Japan Grant Aid covered 2 regions and 1 state including 70 townships and 14.9 million population that is 25.11% of total . Also covered 25% of area coverage in Myanmar.

3. Achievement and Challenges

3.1 Major Achievements from 2009 to 2011

Since the commencement of Japan Grant Aid support to NMCP in 2009, the following area of success especially in target areas:

1) Death due to malaria declined remarkably over the years.

- a) Malaria death among hospital admitted cases went down from over 221 deaths in 2009 to 105 in 2011.
- b) Malaria Mortality rate of inpatient malaria cases was 1.48 in 2009, a markedly decline to 0.71 in 2011 .
- c) Case fatality rate among malaria inpatient dropped down from 2.06 in 2009 to 1.64 in 2011.

2) Malaria Morbidity also declined over the year

- a) Total malaria cases treated was declined from 201,923 in 2009 to 161,684 in 2011.
- b) The morbidity rate also reduced from 13.57 per 1000 population in 2009 to 10.86 per 1000 population in 2011.

3) Reduced time between first onset of malaria and treatment received

At present, malaria cases receive quality diagnosis and treatment within 24 hours of the first onset of the disease, compared two to three days prior to 2009. This achievement can be attributed to the following programme activities:

- a) **Improved access to early diagnosis and prompt treatment of target populations.**
The following factors are responsible for this success:
 - i) **Improved coverage of malaria case detection and management in hard-to-reach geographical areas.** Prior to 2009, BHS struggled, due to difficult access, to reach populations at risk to malaria. Presently, community volunteers in remote, difficult terrain and seasonally hard-to-reach geographical areas offer extended services to the needy population.
 - ii) **Update of the national malaria treatment policy** in 2002, 2008 and again in 2010 led to the use of WHO recommended standards of malaria diagnosis and treatment. All clinical diagnosis must be further confirmed, either by RDT or microscopic examination. The national policy resulted in three major changes in the practice of malaria disease management:

Scaling up of RDT, starting in 2009 with *P.f* alone, and combination RDT (*P.f* and *P.v*) in 2010, significantly contributed to the availability of prompt ACT to the target population. Up until 2008, Myanmar NMCP employed the definition of clinical suspected cases. Presently, confirmed malaria cases, using RDT in remote community, and parasite lab in township hospitals and health stations, contributed to the availability of quality treatment for all confirmed cases.

Scaling up of malaria microscopic diagnosis at hospitals and rural health center (RHC). **ACT was made available** to all malaria confirmed cases.

- iii) **Public-Private Partnership (PPP)** between the national malaria control programme and general practitioners is a major part of this effort. Engaged through the Myanmar Medical Association (MMA) and PSI, private doctors and clinics learn to provide quality malaria disease management following the National Guidelines

for Diagnosis and Management of Malaria. More than 200 GPs attended training courses offered by the WHO Malaria Unit, and constantly supervised by malaria staff. For the first time in 2010, quality malaria diagnostic service and ACT is available at an affordable price in the private sector as an alternative for those who choose to frequent private doctors. MMA also runs fixed and mobile malaria clinics.

iv) Prevention of Stock-outs of antimalarial provides tremendous help in making sure that hospitals and health care providers do not run out of medical supplies, which, in turns, help saving lives.

(1) Improved data system allow timely track of logistics, therefore, preventing stock-outs.

(2) Improved supervisory and M&E system.

b) Improved awareness of target population on self-protection and medical compliance:

i) Behavioral Change Communication (BCC) strategy has been instrumental in increasing medical compliance among population at risk. Malaria patients are aware of the quality services provided by the nearby health facility. They are also aware of malaria self-protection measures such as LLIN and retreated nets.

ii) Health volunteers in remote and malarious areas, private doctors and nurses were trained on how to provide health education aiming at utilization of recommended interventions such as medical compliance as well as self-protection measures.

4) Emergence of drug resistant malaria is counteracted

Seven sentinel sites established to monitor anti-malarials efficacy. Annually, data from these activities are analyzed and provide insights into decisions on national drug policy. MARC—Artemisinin Resistance Containment in Myanmar--was established in December 2010 as a part of the Mekong Regional Malaria Project. A strategic framework for Artemisinin resistance containment was developed, and implementation began in the highest priority areas.

5) Improved self-protection among target populations:

a) Re-treatment of personal nets at community level through health village volunteers. These volunteers are trained to survey and keep records of nets, and to plan and implement retreatment of regular nets up to two times *per* year.

b) LLINs are available to population at risk through the Japan Grant Aid.

6) Improved quality of malaria data in terms of accuracy, reliability and timeliness

In addition, from 2010 onward, due to supports from Japan Grant Aid, all reported cases is no longer clinical suspected cases, but confirmed cases, either by RDT or laboratory-confirmed.

- a) Improved data collection at Sub-rural station by providing standard forms, registration and training on how to fill in and report.
- b) Particularly important is the establishment in 2009/2010 of a Data Assistant at State/Regional Health Office who will ensure data quality.
- c) Improved data flow, assisted by computerized system. Monthly, data is entered and copied on to a DVD ROM and mailed from Sub-rural and Rural Health Center to Township Health Department.

7) Improved planning process for malaria control strategy:

- a) National Strategic Plan, 2010-2015.
- b) Guidelines for Micro-stratification developed in collaborations between WHO, UNICEF, JICA and the NMCP since 2006. Initially, at the onset of the project, there were 80 Townships, now 150 more. Of 330 Townships in Myanmar, more than 200 malaria endemic Townships are doing situation analysis and develop annual plan for malaria prevention and control. This capacity led to:
 - i) Activities such as LLINs can now be planned at Township level with this document and a specific training, leading to locally-specific malaria interventions for malaria risk areas.
 - ii) IRS is presently used solely in epidemic situations, or specific scenario such as malaria prevention in new settlements.

3.2 Challenges:

Administrative issues:

1. Sustaining the gains made and keeping the momentum of success is a major challenge to the Myanmar NMCP. With the Japan Grant Aid coming to a close by the end of 2011, the national programme is facing a major challenge on how to ensure continuous availability of quality services, as well as to expand the service of cover more geographical areas.
 - 1.1. Interruption of supplies for RDTs, ACTs, and retreatment of mosquito net and LLINs in

areas where its population has become low immune due to the service could result in malaria outbreaks and deaths, particularly among special population such as the under-five and pregnant women.

- 1.2. Certain programme functions made possible solely through Japan Grant Aid Data quality and data flow at State/Regional level is vital to the efficiency of the Programme. They must be maintained and expand to for a national coverage. For the time being, national resource is insufficient to ensure its function, let alone expanding. The Myanmar NMCP continues to need external supports from partners, both in terms of technical as well as financial assistance.
2. Human resource capacity building to keep up with increased control activities, particularly at the peripheral level such as those working in Sub-rural and Rural Health Centers. At present, training of existing BHS to do more and better is the primary intervention. This strategy, in the long run, might lead to fatigue and burnout among staff. Increasing number of health staff involve long term planning and approval at high level. This poses a challenge to the programme on keeping a good balance.
3. Project fragmentations due to too many projects and partners. NMCP staff spends much time attending meetings or training programmes.

Technical issues:

1. Scaling up of malaria control activities to cover inaccessible geographical areas, because of some political and security issues in states and regions.
2. The private sector and adherence to the national policies on antimalarials:
 - 2.1. Fake and sub-standard antimalarials use among GPs.
 - 2.2. Adherence of GPs to national drug policy
3. Continued improvement of epidemiological data quality:
 - 3.1. At present, no information of certain risk factors, e.g. occupation. In addition, data on malaria at international borders is becoming more important, so, need to further improve.
 - 3.2. Data inconsistencies between townships as well as at State/Regional level.
4. Sustaining the gains made, and scaling up of malaria surveillance system/database.
 - 4.1. Harmonizing indicators

4.2. At the end of 2011, about two-third of townships in Myanmar participates in this project.

4.2.1. Scaling up to cover 100%

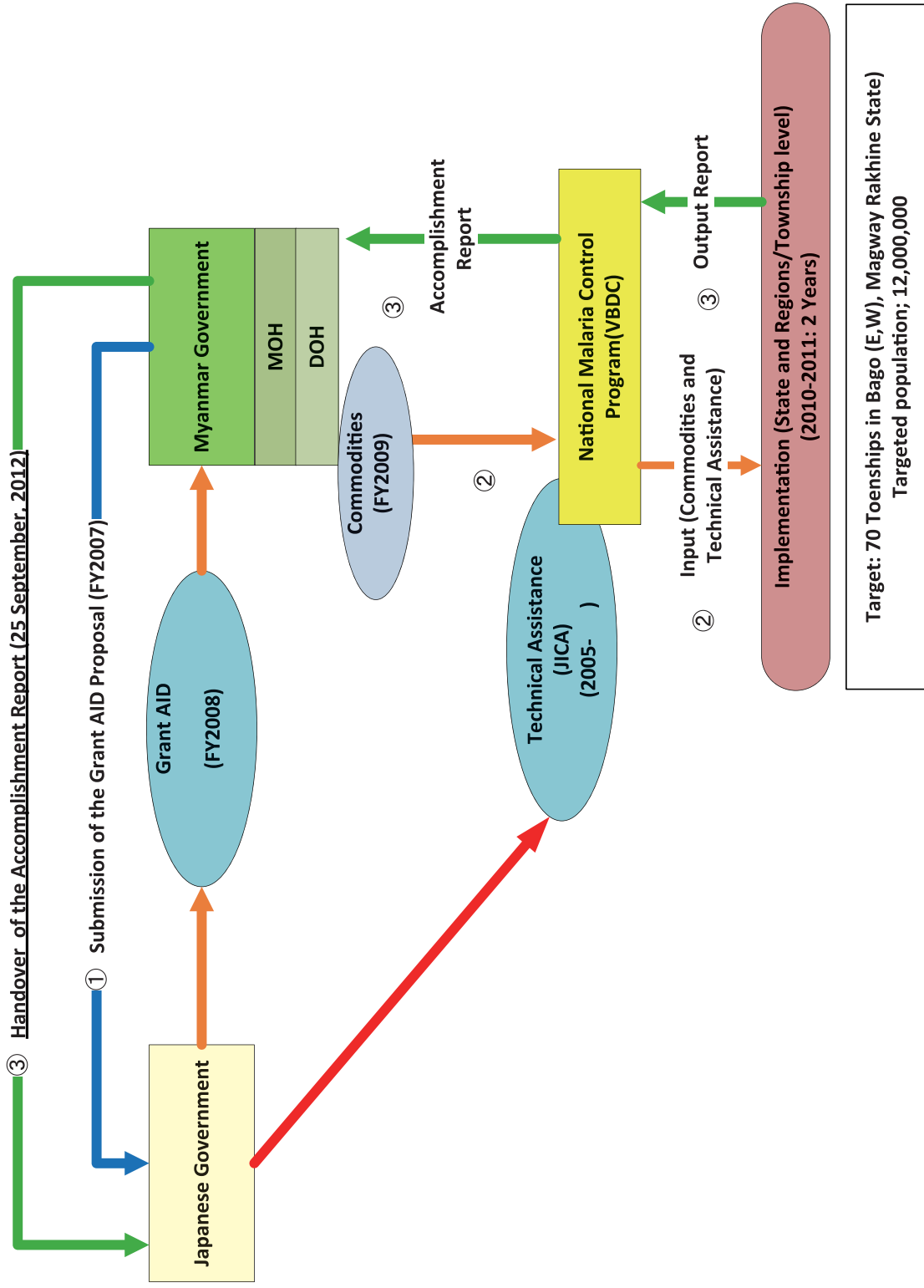
4.2.2. Sustaining the data quality. Need to institutionalize. Massive training of staff in the programme.

4.2.3. keeping the system up to date (up to date list of health facilities, # of staff at all levels, etc.) is a big challenge.

Operational issues:

1. Estimation and documenting of malaria burden among mobile population continues to pose challenges to the Programme. Malaria risks in Myanmar is related with mobility induced by economic activities, security, or notably development projects. This insight mandates collaborations among sectors, governmental and non-governmental, to work together in order to be able to estimate malaria burden in this population, and eventually alleviate its malaria burden.
2. Planning and implementation of surveillance of drug resistant malaria.
 - 2.1. MARC
 - 2.2. Sentinel surveillance sites
3. Communication barriers due to cultural and language difference between malaria service providers and the recipients. Training of BHS needs to take into account this difference in order to further improve acceptance and compliance.

Setting Up of Effective Bilateral Collaboration between Japan and Myanmar





Location and its vegetation of JGA target area in Myanmar
(Bago Region, Magway Region and Rakhine State)



JGA Target Area

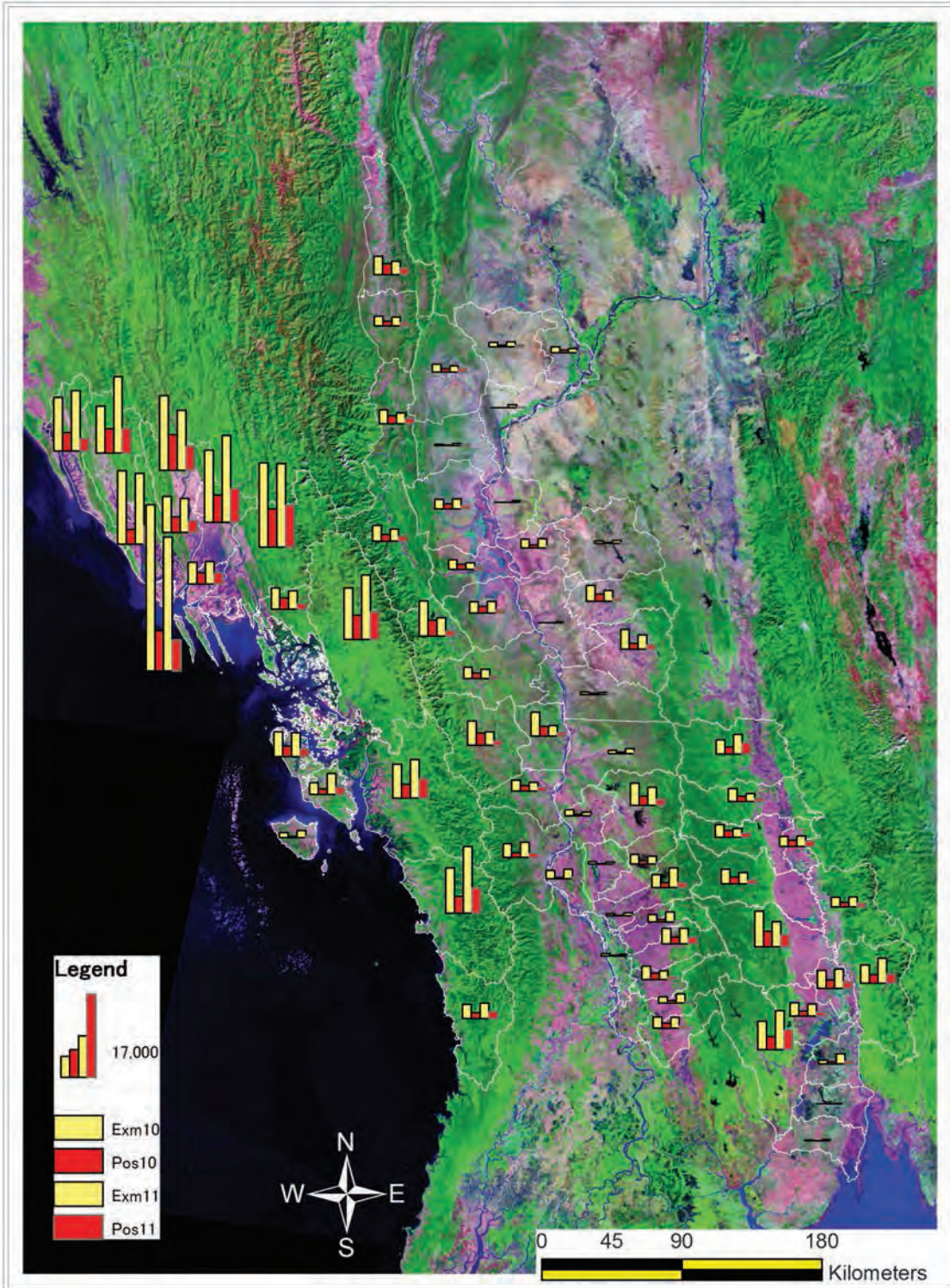
0 125 250 500 Kilometers



<u>No of Townships</u>			
Bago Region (E)	14	Rakhine State	17
Bago Region (W)	14	Magway Region	25



No of Examine and Positive Cases in the Project Area (2010,2011)



List of Targeted Townships Implemented Essential Interventions by support of Japan Grant Aid in 2010 and 2011

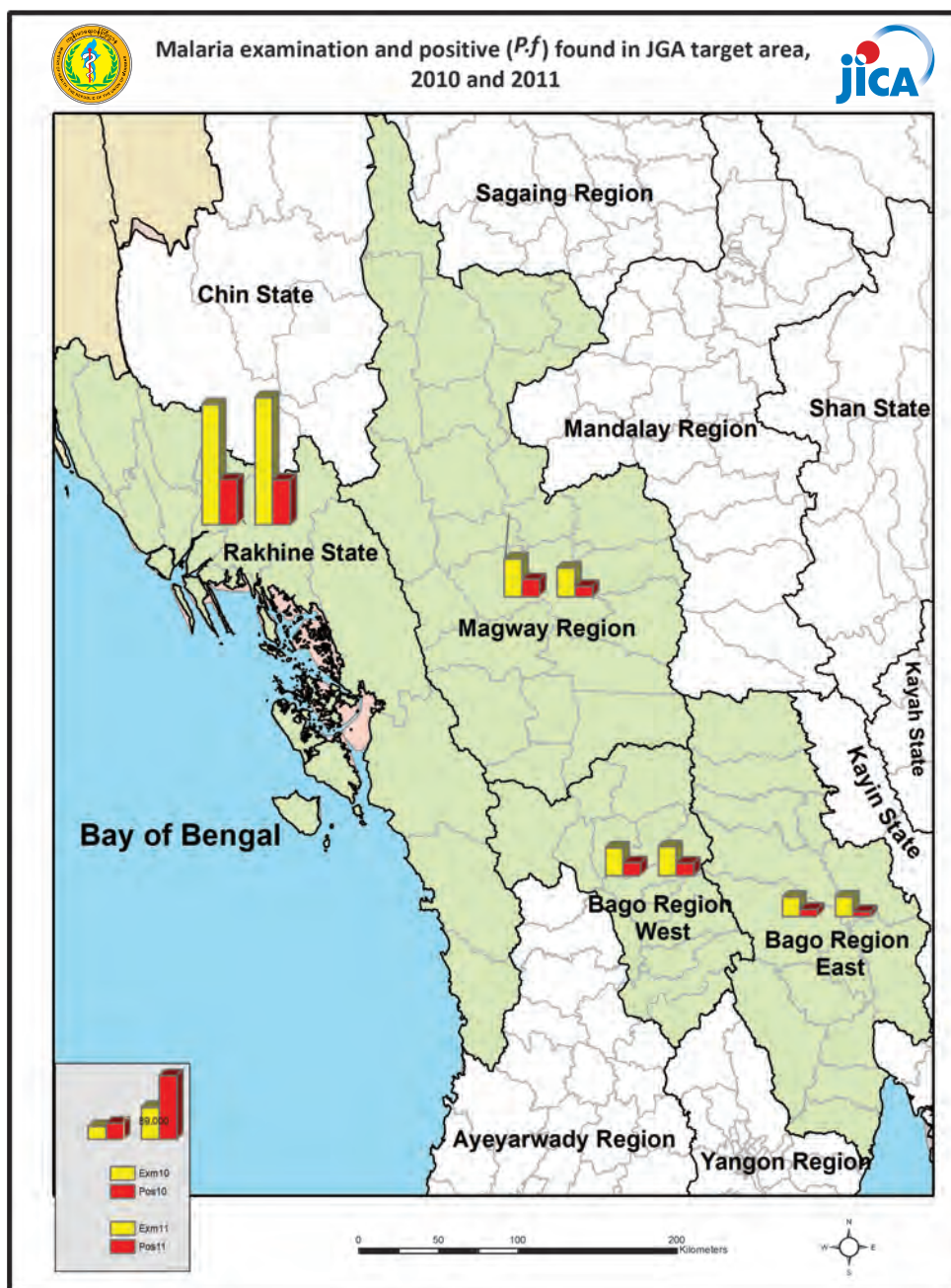
SN	State and Division	DISTRICT	TOWNSHIP	Total Pop.	Intervention	
					Early Diagnosis and Prompt treatment	LLIN distribution
1	Bago E	Taung Gu	Ye Da She	193,440		
2	Bago E	Taung Gu	Taung Gu	241,802		
3	Bago E	Taung Gu	Htan Ta Bin	116,285		
4	Bago E	Taung Gu	Oka Twin	149,823		
5	Bago E	Taung Gu	Phyu	272,392		
6	Bago E	Taung Gu	Kyauk Kyi	108,557		
7	Bago E	Bago	Kyauk Ta Ga	232,324		
8	Bago E	Bago	Nyaung Lay Bin	230,319		
9	Bago E	Bago	Shwe Gyin	77,931		
10	Bago E	Bago	Daik U	211,118		
11	Bago E	Bago	Bago	441,476		
12	Bago E	Bago	Waw	206,127		
13	Bago E	Bago	Tha Nat Pin	171,136		
14	Bago E	Bago	Ka Wa	235,874		
15	Bago W	Pyay	Pauk Khaung	121,472		
16	Bago W	Pyay	Pyay	247,736		
17	Bago W	Pyay	Pa Daung	180,056		
18	Bago W	Pyay	Shwe Daung	170,799		
19	Bago W	Pyay	The Gon	164,326		
20	Bago W	Pyay	Paung De	166,233		
21	Bago W	Tha Yar Wady	Nat Ta Lin	203,735		
22	Bago W	Tha Yar Wady	Zi Gon	87,346		
23	Bago W	Tha Yar Wady	Gyo Bin Gauk	142,568		
24	Bago W	Tha Yar Wady	Oak Pho	147,994		
25	Bago W	Tha Yar Wady	Min Hla	148,859		
26	Bago W	Tha Yar Wady	Let Pa Dan	218,835		
27	Bago W	Tha Yar Wady	Tha Yar Wady	180,819		
28	Bago W	Tha Yar Wady	Moe Nyo	166,624		
29	Magway	Ma Gway	Chauk	276,966		
30	Magway	Ma Gway	Ma Gway	338,966		
31	Magway	Ma Gway	Myo Thit	182,140		
32	Magway	Ma Gway	Nat Mauk	274,393		
33	Magway	Ma Gway	Taung Dwin Gyi	283,128		
34	Magway	Ma Gway	Yae Nan Gyaung	220,697		

35	Magway	Min Bu	Min Bu (Sa Gu)	199,947		
36	Magway	Min Bu	Nga Pe	48,690		
37	Magway	Min Bu	Pwint Phyu	194,526		
38	Magway	Min Bu	Say Toke Ta Yar	51,895		
39	Magway	Min Bu	Sa Lin	281,492		
40	Magway	Pa Kok Ku	Yae Sa Gyo	310,844		
41	Magway	Pa Kok Ku	Myaing	308,200		
42	Magway	Pa Kok Ku	Pa Kok Ku	378,604		
43	Magway	Pa Kok Ku	Pauk	188,084		
44	Magway	Pa Kok Ku	Seik Phyu	113,628		
45	Magway	Saw	Gan Gaw	134,701		
46	Magway	Saw	Saw	82,010		
47	Magway	Saw	Thi Lin	70,378		
48	Magway	Tha Yet	Kan Ma	98,493		
49	Magway	Tha Yet	Min Don	79,300		
50	Magway	Tha Yet	Min Hla	136,425		
51	Magway	Tha Yet	Sin Paung Pwe	127,533		
52	Magway	Tha Yet	Tha Yet	136,457		
53	Magway	Tha Yet	Aung Lan	255,437		
54	Rakhine	Kyauk Phyu	Ann	106,488		
55	Rakhine	Kyauk Phyu	Kyauk Phyu	175,748		
56	Rakhine	Kyauk Phyu	Man Aung	89,240		
57	Rakhine	Kyauk Phyu	Yan Bye	132,463		
58	Rakhine	Maung Taw	Maung Taw	391,865		
59	Rakhine	Sit Twe	Kyauk Taw	216,318		
60	Rakhine	Sit Twe	Min Bya	177,184		
61	Rakhine	Sit Twe	Myauk U	202,839		
62	Rakhine	Sit Twe	Mye Bon	110,918		
63	Rakhine	Sit Twe	Pon Nar Kyun	119,286		
64	Rakhine	Sit Twe	Sit Twe	245,865		
65	Rakhine	Sit Twe	Ya Thi Taung	150,685		
66	Rakhine	Sit Twe	Pauk Taw	145,717		
67	Rakhine	Than Dwe	Bu Thi Taung	259,690		
68	Rakhine	Than Dwe	Gwa	71,163		
69	Rakhine	Than Dwe	Than Dwe	136,799		
70	Rakhine	Than Dwe	Taung Gok	130,588		
			Total	12,871,796	70 TSs	11 TSs

 Early Diagnosis and Prompt treatment

 LLIN distribution

Accomplishment of malaria examination (RDT & Microscope) and positive (*P.f*) in JGA Target Area, 2010 and 2011



Sr	Target State/ Regions	2010		2011	
		Malaria Examined	Positive (<i>P.f</i>)	Malaria Examined	Positive (<i>P.f</i>)
1	Bago Region (East)	39,939	18,074	40,380	17,532
2	Bago Region (West)	27,170	10,086	27,238	7,122
3	Rakhine State	167,771	62,902	177,746	62,710
4	Magway Region	53,423	24,572	40,682	14,680
	Total	288,303	115,634	286,046	102,044

Allocation lists of Procured Items for State and Regions

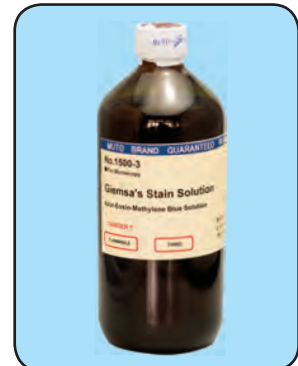
No	Name	Package Type	Central VBDC	Bago West	Bago East	Magway	Rakhine	Total
1	Rapid Diagnostic Test Kit (RDT)	25 test / kit	14,866	1,000	1,000	2,000	9,000	27,866
2	Glass Slide	100sheet/box	1,223	100	100	150	750	2,323
3	Lancet	200/box	563	50	50	100	400	1,163
4	Giemsa Stain	500ml bottle	247	20	20	30	150	467
5	Anisole	500ml bottle	247	20	20	30	150	467
6-1	ACT Drug - 1	30 treatment/ Package	690	50	50	50	400	1,240
6-2	ACT Drug - 2		930	75	75	130	650	1,860
6-3	ACT Drug - 3		930	75	75	130	650	1,860
6-4	ACT Drug - 4		3,812	300	300	520	2,500	7,432
7	Chloroquine	100tablet/ bottle	1,440	280	280	540	340	2,880
8	Primaquine	100tablet/ bottle	2,880	560	560	1,080	680	5,760
9	Artemether injection	Ample: 6bottle/ box	9,278	750	750	1,300	6,500	18,578
10	Syringe	Individual Package	55,668	4,500	4,500	7,800	7,800	111,468
11	Doxycycline	1000tablet/ bottle	93	8	8	13	65	187
12	Artesunate tab.	12tablet/ sheet	9,278	750	750	1,300	6,500	18,578
13	Quinine tab	1000tablet/ bottle	1,440	280	280	540	340	2,880
14	LLIN							
15	Sprayer for IRS	Individual Package	0	6	6	6	6	24
16	Insecticides Irs	125Pack/ box	0	31	31	31	32	125

The Pictures Procured Items For confirmatory diagnosis

1. RDT (Rapid Diagnosis Test)



2. Giemsa's Solution



3. Anisol



4. Blood Lancet



5. Glass slide



For treatment

6. ACT (Coartem)



7. Chloroquine



8. Primaquine



9. Quinine



10. Doxycycline



For Treatment

11. Artesunate tablet



12. Artemether injectable



13. Syringe for injection



For Prevention and vector control

14. Sprayer for indoor residual spray



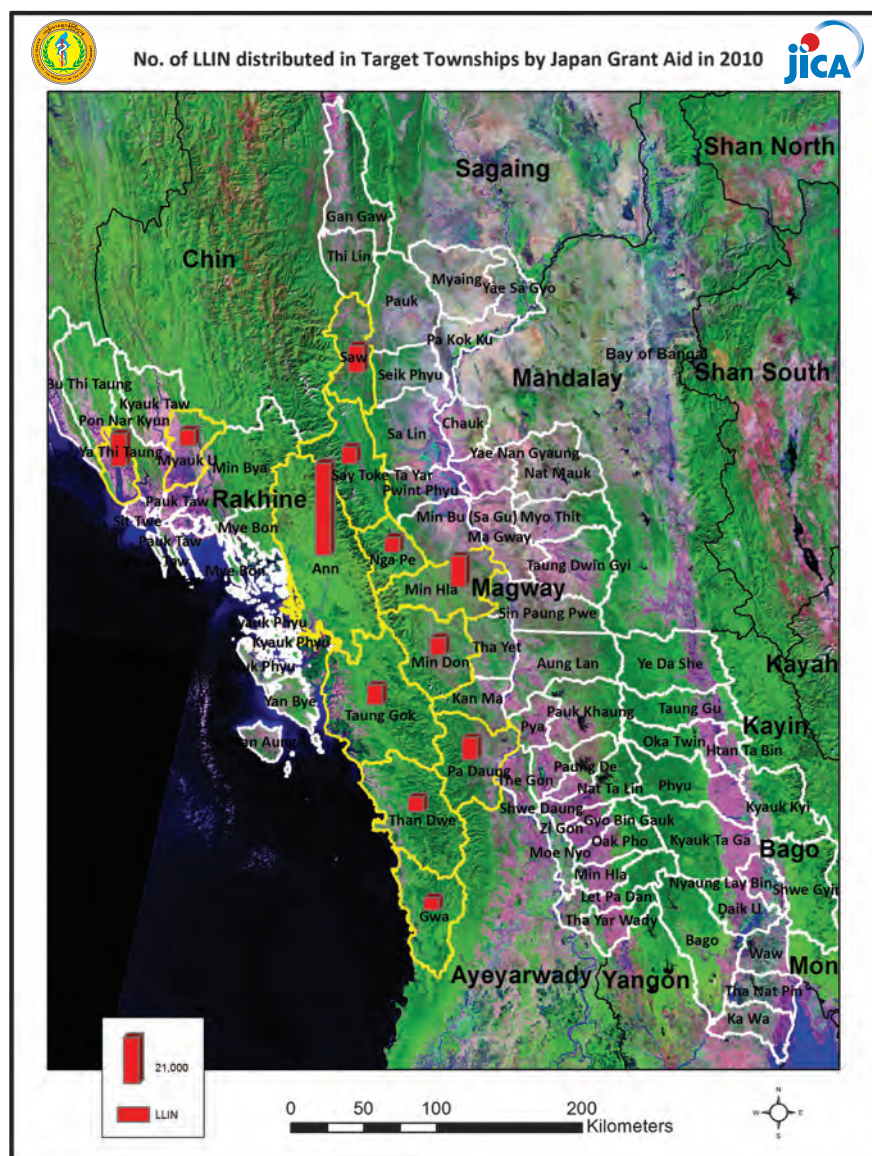
15. Insecticide for indoor residual spray



16. Long lasting insecticidal net (LLIN)



No. of (LLIN) Distributed in Strategic Township in JGA Target Area



Sr	Township	Bago Region West	Bago Region East	Magway Region	Rakhine State	Total	Per HH
1	Padaung	11,200				13,700	1
2	Saw			13,700		13,700	1
3	Saytoketaya			9600		9,600	1
4	Ngaphe			8,400		8,400	1
5	Minhla			14,200		14,200	2
6	Mindone			8,900		8,900	1
7	Mrauk U				8,200	8,200	1
8	Rathedaung				15,000	15,000	2
9	Ann				42,200	42,200	2
10	Thandwe				7,000	7,000	1
11	Taungoke				13,100	13,100	1
12	Gwa				6,500	6,500	1
	Total	11,200	0	54,800	92,000	160,500	15