New technology on the pest control in the urban enviroments in Japan

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Lists of the important pests presented in the International Conferences on the Urban Pests (ICUP)

Year	1993	1996	1999	2002	2005	2008	2011	2014
Town	Cambrige	Edinburgh	Prague	Charston	Shingapole	Budapest	Ouro Puerto	Zurich
Country	UK	UK	Czech	USA		Hungary	Brazil	Swit.
Cocoroaches	26	27	30	13	21	10	12	11
Ants	4	5	8	15	16	11	19	11
Flies	5	2	9	8	3	4	2	4
Mosquitos	9	19	17	4	19	18	18	17
Bed bugs	0	0	0	0	0	8	12	10
Termites	6	8	19	27	30	10	16	2
Rodents	0	6	6	5	6	3	12	8

The 1th ICUP has launched in 1993 at the Saint Jones Colleges, Cambride University, UK., and 9th ICUP coference will held in London, 2017.

A notable feature on Japanese Pests

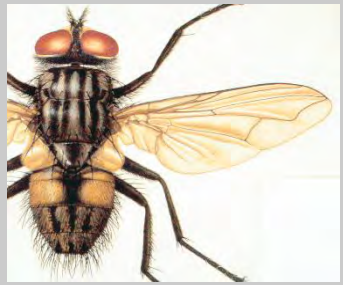
1. Japan is not a endemic country of serious infectious diseases. However, SFTS (Severe fever with tromboytopenia syndrome virus, albovirus) disease transmitted by ticks has been occured in the southwest Japan, with 26 fatalities in 85 patients by 2014.
2. Avian influenza (H5N1) has spread among poultry industries in southwest Japan. The virus might introduce from Asian Continent by migratory ducks to Japan, and the virus moved to sparrows near by, then domestic fowls. The blowflies which are common in the wintertime are posible carrier of this virus.
3. *Aedes albopictus* which is serious nuisance mosquito is now spreding to northern Japan. The Dengue fever has broken out in three victims for the first time since 70 years ago in Tokyo last week.
4. German cockroach is the most important pest; restaurants, hotels, food proccesing plants, and this cockroach is the main target for Pest Control Companies in Japan.
5. Rats and mice are also important pests in feed plants,warehouses and restaurants.
6. The house fly *Musca domestica* is often serious in the animal houses, sewage and reclamened lands.
7. The migrated Argentine ant, *Linepilhema humile* is now expanding to the metropolitan area.
8. The poisonous Red-back widow spider, *Latrodectus hasseltii*, is also expanding to north.

Cockroaches and their control in Japan

Species	Distribution	Habitates	Subjects/problems	Control methods
Blattella germanica	Natiowide in Japan (only inside buildings)	Restaurants, Hotels, Food prossesing companies, Multitenant buildings	Insecticide resistant, Bait shyness, **Sticky trap avoidance	*Fipronil or hydrametylnon bait, Propetamphos MC formulation, Big aerosol market for resident use
Periplaneta americana	Southern Japan	Ibid	Contollable	
P. fuliginosa	Southwest Japan	Residents, Convineance stores, City parks		
P. japonica	Northeast Japan, winter hibernation			
B. orientalis	Not present	—		

*The secondary effect of bait through coprophagy was flatly denied by Tabaru et al (2003, 2004, 2008). ** Some portion of cockroaches avoid sticky trap and the avoidance remainds about 5 weeks (Tabaru and Watabe, 2011).

Recent fly control in Japan

Places	Species	Situation	Problem	Insecticide	Control operators
Residents, stores, markets	*Musca domestica*	Decresing flies after 1970's due to classification of garbage collection		IGRs and propetamphos emulsion	Public service
Dump, compost and garvage	*M. domestica*	Decreasing flies after classification of garbage, Covering garbages with soil	Insecticide resistance		Municipalities
Reclamed lands	*M. domestica*				
Poultry houses	*M. domestica, Fannia canicularius*	Windowless houses, Removing dungs			Owner or PCO
Animal pens	*M. domestica, Musina stabulans*	Removing excrements, composts			
Desaster of Tsunami, 2011	*Calliphora nigribarbis, Phormia regina*	Outbreaks and eliminated	Luck of labour, spray machines and insecticides in the affected area	Propetamphos emulsion	Pest control operators, all over Japan

From our presentaition the 8th ICUP, July 22, 2014, Zurich

Outbreak of blowflies and rats, and their control in the affected areas after the Great Tsunami, 2011

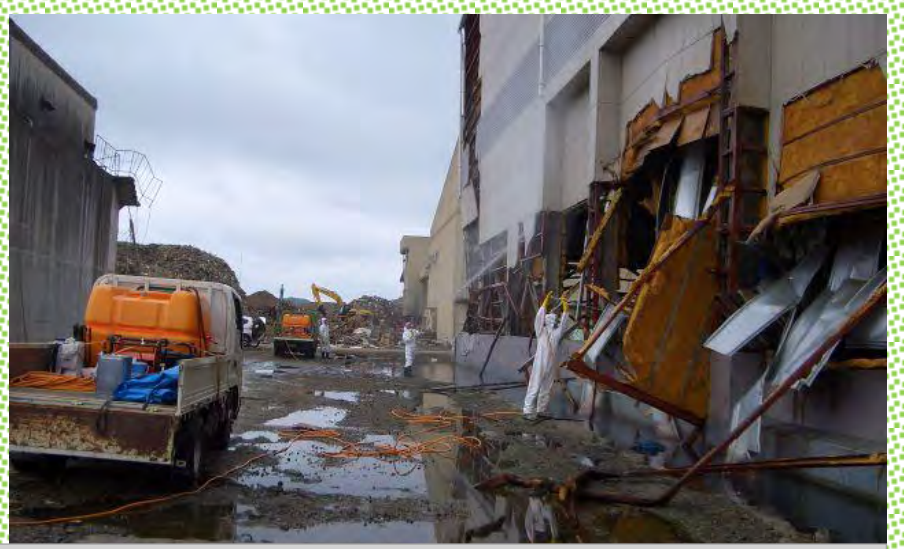
Fly ravae developed in frozen fish wherehouse, in the end of May

Invading flies in the beginning of June, captured in 24 hours.

Wriggling maggots of the black blowfly in shark fins, June 2011

July 12, 2011

Swarming black blowfly, *P. regina* in a street, Ootsuchi-town



Spraying to rubble heaps and broken freezer by PC operators

Mosquitos and their control in Japan

Species	Casualities	Habitates	*Control methods	Remarks
Culex pipiens	Nuisance	Drainage	Aerosol, Mosquito coils (Personal use)	Nationwide distribution of window screens for preventing mosquito invading.
C. pipiens molestus	Nuisance	Drainage, Underground water		
Aedes albopictus	Nuisance	Small water containers		
C. triteniorincus	Nuisance (Before transmit Jpn. Encefalitis)	Paddy fields	Mosquito nets were common before 1970s.	Water management has changed and resulted decreasing mosquito populations.
Anopheles sinensis	Nisance, (No malaria in Japan)	Paddy fields		

*A few comunities spray insecticides in bush or drains.

Bed bugs in Europ, USA and Japan

Region	Habitats	Detection	Control	Remarcs
USA	Nationwide distribution; apartments, residents, transportation, hotels	Visual inspection, Glue traps, Canies	Pyrethroid spraying	Insecticide resistant, Banned OP compound use
Europ	Incresing in UK, Euro countries			
Japan	Apertment houses for low income-person (Not so serious)	Visual inspection, Flush-out	Fenitrothion, Propetamphos	Insecticide resistant, Lifestyle prevents bug invading; keep clean body and house, keep off shoes at entrance

Sucking my under arm

Sand fly and black fly

Common name	Scientific name	Vector for	Breeding sites	Control
Sand fly	*Phlebotomus papatasi*	*Leishmaniasis	Various	Mosquito net
Sand fly in Japan	*P. squamirostris*	Not known	Not known	Not approved
Black fly	*Similium spp*	**Oncocercosis	Stream	Ivermectin in America continent
Black fly in Japan	*S. japonicum*	Onco. for *Bos taurus*	Stream	Not recommended

*Leishmaniasis is serious in Turkey, Middle East, Africa and Bangladesh.** Oncocercosis in the Central America was almost eliminated by ivermectin treatment for positive person.

Rodent control in Japan

Species	Places	Methods	Ploblem
Rattus rattus	Feed farm, high raised buildings, residents, windowless poultry houses	Baits of difethiarol, difethialone	Rodenticide resistance, Avoidance to sticky traps
R. norvegicus	Food processing farms, ports, markets, metro, poultry houses, shopping district	Baits of coumatetralyl or warfarin	Controllable
Mus musculus	Feed farm, agricultural wherehouses	Baits of difethiarol, difethialone	

In 2012, next year of Tsunami, *R. norvegicus* was adundant in rubble heaps, and control was requested for pest control operators.

Current topics on the pest problem in Japan

Topics	Vectors (Tick)	Distribution	Victims 2013
SFTS (Severe fever with tromboytopenia syndrome virus, albovirus)	*Haemaphysalis longicornis*	Southwest Japan	13 Mort/ 40 victims
	H. flava	Southwest Japan	

Cluster of nymphs

After blood sucking

Lules and regulation on the Pest Control in Japan

Names of regulation	Regulatory
Infectious Disease Control Law	For prevention of outbreak of infectious disease and control of the vectors
Sanitation Standard Law in Public Use Buildings	Requirment of pest management in the specific buildings over 3000 m^2, Pest control standard
School Health and Safety Law	Ensurling of health and safety in the scool enviroment, Prevet of Pest Invading
Food Sanitation Law	Chemical residure, Contamination of bacteria, Insects, HACCP, Prevet of Pest Invading

How to breed insects and rodents in laboratory

Species	Scale of arena or cage	Baits	Enviloments	Remarks
Cockroaches	Glass chamber (25 cm x 30 cm, 25 cm height)	Dog food,water and harborages	27 ℃、75 % RH	Baby powder or baby oil inside arena preventing from escape
House fly	Metal screen chamber (30 cm x 30 cm x 30 cm)	Adults: 5% sugar solution, Larvi: watered dog food	27 ℃、75 % RH	Put dry sands on surface of arena at the time of pupation
Culex pipiens	Metal screen and watered pad (25 cm x 25 cm, 5 cm depth)	Aduls: caged chicken or mouse, larvi: starch	27 ℃、75 % RH	Every 5 days feeding
Bed bug	Grass arena with folded carton	Human blood	27 ℃、75 % RH	Every 10 days
Rats and mice	Metal screen chamber (30 cm x 30 cm x 30 cm)	Dog food	27 ℃、75 % RH	Introduction of domesticated ones

Pest Control Markets in Japan

Markets	Targets	Subject / Issue
Food Prossessing Plants	Cockroaches, Rats and Mice, Birds, Red flour beetle	Annual Pest Management by IMP technique
Resutaurant & Hotels	Cockroaches, Rats and Mice	Annual Pest Management by IMP technique
Shopping mall, Multitenant buildings	Cockroaches, Rats and Mice	Annual Pest Management by IMP technique
Airports, Poultry houses, Animal houses	Flies, Rats and Mice	In case of emergency
Transportation facilities	Rats and Mice, Pigeons	Mechanical avoidance
Residents	House dust mite, Cockroaches, Termites	Private contract

Entomological Academies in Japan

Names	Memberes	Contents	Publications	Remarks
The Japan Soc. of Medical Entomology and Zoology	330	Taxonomy, Biology, Ecology, Distribution, Toxicology	Quatalies	Almost English
The Japanese Society of Pestology	322	Biology, Toxicology, Control	Twice a year	Japanese with English summary
Japanese Sco. of Enviromental Entomology and Zoology	365	Biology, Toxicology, Assessment, Control	Twice a year	Japanese with English summary
The Sciety of Urban Pest Management	153	Biology, Distribution, Toxicology	Twice a year	Japanese with English summary
Aplied Entomology and Zoology	2000	Agricultural entomology and Acarogy	Quatalies	Japanese and English

Besides these academies, twelve related academic scieties belong to the Japan Science Council.

My questions on insects in UAE

1. Why the house fly and *Culex quinquefasciata* are important in UAE ? The former develops in humid enviloments, the later, in constan water enviroments.
2. Do you raise house fly, mosquitos, cockroaches or/and rats in the laboratory in your country ?
3. Do you provide insecticide tests for susceptible or resistant against flies or/and cockroaches ?
4. Are ther any transmisible tropical diseases in UAE ?
5. Do you have Leishimaniasis in UAE ?
6. I have read TADWEER, The Center of Waste Management Adu Dhabi.
   1) On the data of number of service request/communications receive, Dose it come from passive request or active request ?
   2) Do you provide the fixed-point survey in some insects?
   3) I see the great munbers of survice request from Al Ain. Does it come from population or enviroment, or any other cause ?

THANK YOU FOR YOUR ATTENTION

September 13, 2014

Report on Pest Control in Abu Dhabi City

Special observation on Pests in Abu Dhabi, Pest Control Activities, Information Exchange and Laboratory Conception

Short time Expert, Yuichiro TABARU, *Ph.D.*
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Dispatching period; Aug. 29 to Sept. 6, 2014

1. Object of Investigation.

The reporter concentrated in the following points in this short time expert;

-What are the main pests (injurious insects and animals) in Abu Dhabi?

-The Pest Control Activities are outsourcing to the private PC companies in Abu Dhabi. Do they work adequate methods for pest controlling and safety handling of insecticides, and document reporting system?

- Does CWM evaluate the outsourcing activities?

- On the laboratory conception.

2. Methods.

- Give an oral presentation of Pest control activities in Japan and some developed countries, and discussion.

-Inquiring on PC from CWM director.

- Receive an oral presentation by CWM director and specialist.

- Observation pests in Al Ail Waste Management Center.

- Observation of Pest Control activities and safety handling of insecticides in Eagle Pest Control Company.

3. Results and Discussion

3-1. Pests in Abu Dhabi and Ali Ain

It was not fly season in Al Ain due to high temperature and low humid when we visited Al Ain, though huge amounts of waste were accumulated in a dumping area (Fig. 1).

Fig. 1.Waste depositing sight in Al Ain

The director of Waste Management Company suggested us that fly season would be October through March. When I asked him about control methods, name of pesticides, and evaluation data, he and his henchman could not answer correctly. The PC activity was outsourcing to the private Pest Control Company. It seemed that the control record was not reported to the Waste Management Company.

Eng. Mohamed Mahmoud Al Marzouqi, Public Health Pest Control Director

demonstrated us on the following pest list in this country. However, standard or important level was not clear because of the lack proper data or information.

Table 1. List of pests in Abu Dhabi

Category	Species	In Abu Dhabi	In Japan
*Nuisance	German cockroach	**Serious**	Serious
	American cockroach	**Serious**	A few
	House fly	**Occacional seroius**	Not serious
	Mosquito (Culex quinqhefaciatus)	**Serious**	Not habitat
Nuisance & Vector	Mosquito *Aredes albopictus*	**No habitat**	Serious Dengue fever
Vector Rodent	*Anopheles spp*	**Not serious**	Not serious
	**Rattus rattus*	**Serious**	Serious
	R. novegicus	**Not serious**	Serious
	Mus musculus	**Not serious**	
Dog and cat	*Stray Dogs and alley cats*		

*Seasonal prevalence of each pest was not recorded in the PC Division, CWM.

***Ruttus ruttus* is serious in date palm tree. House fly season is October to March.

3-2. Characteristic of pests in Abu Dhabi

3-2-1. Nuisance Pest

The nuisance pests are concern in the developed countries. The word of nuisance indicates that citizens feel awful, terrible, dirty, non-hygiene when pests are existence in their houses, parks and environments. The other hand, vectors which transmit tropical diseases are common in the developing countries. In this case vector pests are fixed in each country, and control activities are Government Issue; employ the control technicians, pointing out the infestation ratio, geographical distribution, control method, evaluation, etc. The tolerable level of nuisance are varied depend of peoples. In UAE Emirates, serious vector pests are not reported. However, recent transportation system, for example, worldwide aero networks trend to easy transport of vector and disease positive persons. I am afraid that so many migrant peoples visit here every year because their native countries are common with vectors.

3-2-2. German cockroach, *Blattera germanica*.

The German cockroach are cosmopolitan species. They habitat in urban envelopment. And field colonies develop insecticide resistance, resulted difficulty of chemical control. The PC Division, CWM is advised to make control criteria; tolerate level, control level, argent level in cockroach control. I recommend CWM to study susceptible test using field collected colonies in laboratory. We can find proper insecticide through this study. Another species, American cockroach is controllable, but need inspection and monitor for this species.

Fig. 2. Mosquito survey in Abu Dhabi

3-2-3. Mosquito in Abu Dhabi

Common house mosquito, *Culex quinquefasiata* is developed in drainage in Abu Dhabi. Experienced working was observed using long shaft for collecting mosquito larvae from man hall.

3-2-3. House fly, *Musca domestica*

The Pest Control Director, CWM and PC company said that fly season is cooler season, October to March. The fly control method in Al Ain is thermal spaying of Pyrethroids. These chemicals are effective against house fly showing no residual action. No data on efficacy are recorded by the outsourcing pest control operator at all in the waste treatment plant. I want recommend them to keep record how the pesticide work after spraying. In future, the susceptible investigation would be essential collecting field colonies. Some simple and easy test in fields are also available.

3-2-4. Bed bug.

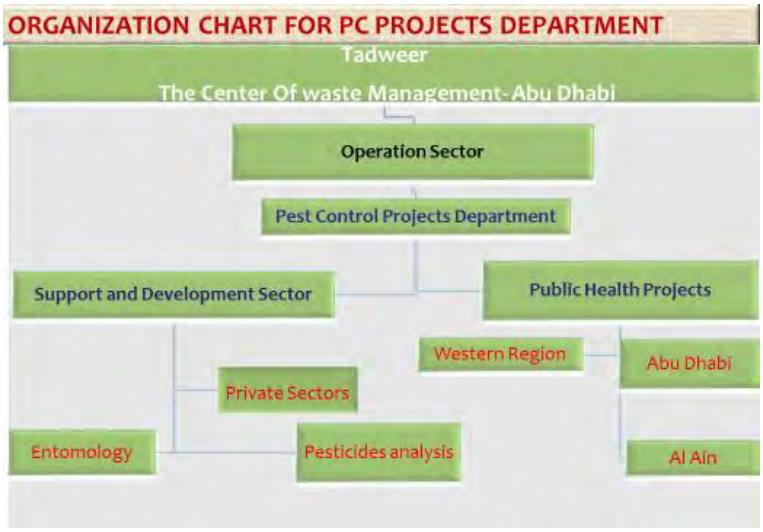
Bed bug, *Cimex lecturaris*, is the most important nuisance pests in USA, EU countries. In future, this species will distribute in this country, especially, in mosque where throng gathered for prey. The bed bugs developed insecticide resistance to many kinds of insecticides.

3-2-5. Rodents.

The roof rat, *Rattus rattus* is common in Abu Dhabi. The rat prefer plant seeds, including date palm. Occasionally the rat habits in high raised buildings. The PC division, CWM is advised to make control criteria; tolerate level, control level, argent level in rodent control.

3-2-6. Stray dogs and alley cats

Pest Control companies are working for eliminate stray dogs and alley cats from public places. Collected animals are handled gently and sending them to an animal hospital. Some animals can return to their home when they have IC chips. Rests are kept several days to find new owner after sterilization.



3-2-6. Observation of pest control activities in Abu Dhabi.

We Japanese mission received oral presentation by Eng. Ebtisam Al-Tamimi, PC specialist of CWM on the pest control criteria in Abu Dhabi.

The organization chart shows in Fig. 1. However, the actual activities and function are not clear. The analyzed data of results did not showed in any slides. The ideal and result seem to be mixed in her presentation.

The outsourcing contracted PC companies have accumulated lutein records; inspected date, name of inspector, location, insecticide, number of pests collected. However, the data are not statically analyzed; seasonal prevalence of each pest, showing pest distribution, and evaluation of spray.

The mosquito collecting dipper is functionally designed, and stray dogs and allay

cats are gently handled to the animal hospitals. Some animals can returned to their owners by announcement by PCO.

The Pest Control Division, the CWM has contracted with the private pest control companies, and the covered area was fixed to the each company according to the scale (Fig. 3). There are no competition among PC companies in this case. However, where there are no competition there are no progress, in quality or efficiency. The reporting system is no clear.

Fig. 3. Distribution of PC Company in Abu Dhabi

We visited the Eagle Pest Control Company which is the biggest company with more than 1000 employee. We could investigate their working. A small Pest Control company caused fatal accident by irregular application of toxic fumigant.

4. Observation of Pest Control Activity

4-1. Field operation of Pest control activity by Eagle PC Company.

We watched Rat control working in a park nearby. Block rodenticides were safety managed in a bait box. The mosquito larva monitoring was also well done using special dipper in man hall. Stray dogs and alley cats were gentry caught and to an animal hospital. The Eagle company was informed our visit previously, the

operation activities seemed successful in appearance. However, the data was not analyzed.

4-2. Pesticide management in Eagle Company.

We visit also administration office of the Eagle Company. Insecticides were safekeeping in dangerous warehouse. We could not recognize that they subdivided the chemicals in handling. The subdivision is prone to hazardous due to the lack of label. It is quite strong points that all of the employee can understand English label (Active ingredient, usage, avoiding of contamination, detoxification, or side effect). It is also strong point when they receive lecture from Japanese experts.

The Eagle Company is using advanced insecticides, rodenticides and spray equipment.

4-3. Recording and Reporting

Working record is writing in adequate paper in field. However, the collected data is not analyzed. We want recommend them to annualized the data for future; seasonal prevalence of pests, geographical distribution, evaluation of insecticides etc.

4-4. IPM (Guideline of Integrated Pest Management)

Fig. 3. IPM guideline for mosquito Control

Eng. Mohamed and Eng. Ebtisam partially or superficially understand the guideline or philosophy of IPM, which is common activities in progressed PC companies in Japan, EU and USA. Making a guideline is responsible to the Pest Control Division, CWM, the IPM guideline is available for PC companies, not for government. Then, The HQ of CWN is advised to make their own IPM in Abu Dhabi and make decision in audit or validation receiving their reports.

5. Laboratory

5-1. Size of Laboratory

I thought that the laboratory is compact and minimum function for laboratory

study before talking with the PC specialists, CWM. However, the plan of laboratory which was explained by them was huge institute.

5-2. The Institute

Figure 3 shows the blueprint of Institute presented by the PC Division. This

seems an international scale of INSTITUTE exact. In this Institute, for example, they want to installer an Insectarium, Lecture room, Museum, Audiovisual room etc. The institute is open for the gulf countries; UAE, Saudi Arabia, Oman and Qatar. The planning of such a large scale Institute is responsible to the professional construction companies in the both countries.

5-3. Insectarium

The Insectarium with study desk will be function for pesticide study. I would like to recommend to keep some important pests first; susceptible colonies of German cockroach, American cockroach, house fly, *Culex* mosquito. Then they can introduce some field collected insects. The device of insectarium are following, insect cages, air conditioner, luminance controller, bait animal cages, microscopes, binoculars, refrigerator, freezer, washing tank, glass chambers, shelves, chemistry apparatus, electric balance, study desk, etc.,

5-3. Handling of laboratory.

The laboratory works are not discussed yet. The Pest Control activities are 100% outsourcing in Abu Dhabi. Then, the private PC companies are responsible to the quality of management.

Specialists of PC in CWM ought to evaluate PC operators if they are working in answering IPM guideline or not.

Japanese leading PC companies employ entomologists for pest identification, plant inspection, monitoring pests, evaluation of pesticides, consultant on the pests, lecture and education for the contract clients etc. Their routine Pest Control Operation are answered to the IMP guideline; monitoring pest indexes, reducing pesticides and 5 Ss words in Japanese (in translation, sanitary, ordering materials, keep clean, wipe and dust, and health condition) are important.

The IPM philosophy is acceptable to the leading PC Companies in Abu Dhabi. In addition, directing or coaching by HQ in CWM is indispensable for the contract PC companies.

5-4. Draw up Pest Control Manual.

An original Pest Control Manual would be effective for scandalize the pest control activities to the Pest Control Division (CWM) and also Pest Control Companies. Japanese experts can prepare a draft of the Pest Control Manual, and will be effective to have discussion with the director and specialist of Abu Dhabi to

improve the draft.

6. Japanese experts.

6-1. Experts

Some experts in the field of Pest Control are available. My experience in this visit impressed me following issuer; the experts should transfer pest handling in the laboratory, pesticide study, evaluation of field works, statistical analyzing data, report techniques, education etc. through English.

6-2. Counter parts in Abu Dhabi

The counter parts are not only director and specialists of the Pest Control Division of CWM, but also the technicians in the division. Because the laboratory works and field trials are mostly done by them. In Abu Dhabi director level does not work in the laboratory. The technicians seem the key persons in the laboratory.

6-3. Pest Control Seminar

We want to recommend opening Pest Control Seminar for the key parsons in Abu Dhabi and Gulf countries. Technicians of the contract PC Companies will be also invited to the seminar. The kick off seminar can stimulate them. I can list up the following speakers.

6-4. Speakers

Japanese; Dr. Motokazu Hirao, President of Japan Pest Control Association
Dr. Kyoko Sawabe, Director of National Institute of Infectious Diaease
Dr. Yuichiro Tabaru, President of Japanese Society of Pestology,
Dr. Tomoyuki Hashimoto, Section chief of Japan Environmental Sanitation Center
Dr. Tatsuo Yabe, Expert Rodent Biology and Control
Abu Dhabi; Pest Control Director, Eng. Mohamed Mahmoud Al Marzouqi

7. Tentative schedule of Japanese Experts

Tentative Pest Control Program						
Item	Who?	2014	2015	2016	2017	2018
Blueprint	JICA					
Construccion	Constractor					
Laboratry handling	Expert					
Insect introducing	Expert					
Education	Expert					
Investigation and data analisis	Expert					
Field study	Expert					
Pest control manual	CWN and Expert					
International seminar	Expert					

平成 26 年 9 月 5 日

アラブ首長国連邦、Abu Dhabi 廃棄物管理センター関係の内、Pest Control に関する報告書

派遣期間：平成 26 年 8 月 29 日～9 月 6 日

短期専門家：田原雄一郎

（調査項目：害虫の実態、害虫防除作業、研究室構想）

１．調査目的

ペストコントロールに関して下記４点を中心に調査する、

①どのような害虫（害獣）が発生する環境なのか、

②Pest Control の実務は外部委託されている。その作業や殺虫剤管理は適正に行なわれているか、

③防除委託の評価は適正に行われているか、

④また、Abu Dhabi に設立予定の Laboratory（研究所）の構想と運用について、

２．調査方法

①日本側から、日本および先進国の害虫管理の実情をプレゼンし質疑応答を行う。

②CWM の Pest Control 責任者からの聞き取り調査を行う。

②CWM 側から、当該国の Pests の実態ならびに Pest Control についてプレゼンを受ける。

③Al Ain 市の廃棄物管理センターで行われている廃棄物処理現場でハエの発生状況を調査する。

④Abu Dhabi 市で PC 業務を受託作業している Eagle 社の作業実態を視察し、聞き取り調査を行う。また、殺虫剤の安全管理が正しく行われているかを視察する。

３．調査内容及び結果

3-1. Pests 発生状況

今回の出張時期は猛暑（>45℃）かつ乾燥期のため、直接害虫の生息を確認することはできなかった。Al Ain の廃棄物センターでの聞き取り調査結果では、イエバエは 10 月から翌年の 3 月初旬までとのことであった。CWM の Public Health Pest Contro Director、Eng. Mohamed Mahmoud Al Marzouqi から Table 1. のような害虫が問題となっていることが示された。

Table 1. Pest list in Abu Dhabi (Al Ain)

Category	Species	In Adu Dhabi	In Japan
Nuisance	German cockroach	Serious	Serious
	American cockroach	Serious	Not serious
	House fly	Occacionaly serious	Not serious
	Mosquito *(Culex quinquefaciata)*	Serious	Not habitat
Nuisance & vector	Mosquito *(Aedes albopictus)*	Not habitat	Serious
	Anophelrs spp	Not habitat	Not serious
Rodents	*Rattus rattus*	Serious	Serious
	R. norvegicus	Serious	Serious
	Mus musculus	Not serious	Not serious

Rattus rattus is serious pests in date palm. House fly season is October to March in Abu Dhabi and Al Ain. Seasonal prevalence of pests is not monitored and recorded in CWM.

3-2. Abu Dhabi で問題になっている害虫（獣）の特徴

3-2-1. Nuisance Pest

この国の害虫（獣）の特徴は Nuisance (煩い、汚い、怖い、非衛生的など心理的な害を与える害虫類) であり、Vector （感染症の伝播害虫）ではない。Nuisance Pests は先進国に特徴的な現象であり、発展途上国では問題になっていない。Nuisance Pests の駆除では、生息許容範囲が決めにくい。なぜなら、Nuisance の感じ方は人や国民性によって異なるからである。

3-2-2. チャバネゴキブリ

チャバネゴキブリは世界的に問題になっているゴキブリで、繁殖力が強い上に殺虫剤抵抗性の発達が著しい。当国でも発生環境を精査して、フィールドから採集して増やし、殺虫剤感受性試験を実施する必要性を感じる。ワモンゴキブリの殺虫剤抵抗性はそれほど発達していないと思われる。

3-2-3.イエバエ

イエバエは涼期に多発するらしい。ここでは 10 月中旬から 3 月上旬とのことである。現在の駆除は、ピレスロイド系殺虫剤の Thermal spray だけのようである。発生消長、発生量の定量的なの記録はない。本種は殺虫剤抵抗性発達の恐れがあるので感受性調査あるいは現場で簡易抵抗性試験を行うべきである。

3-2-4. ねずみ

「クマネズミ」は植物性の餌を嗜好する種であり、ここでは椰子の木に登りデーツを食害すという。また、登攀力に富み、高層ビルに侵入しやすい。

防除基準（生息レベル、許容レベル、措置レベル）を事前に決めておかなければ、ただ、殺鼠剤の施用だけに陥りやすい。

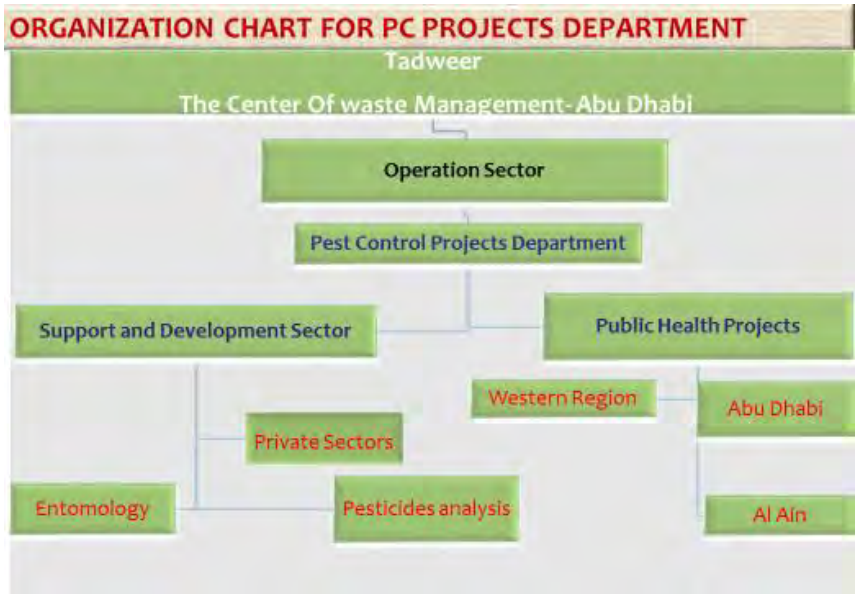
3-2-5. 野良犬と野良猫

Pest Control 企業で捕獲、管理、所有者への返却に携わっている。一部去勢を行っている。引き取り手がない対象については安楽死がとられている。

3-2-6. Abu Dhabi での PCO の実情

CWM 側の Eng. Ebtisam Al-Tamimi（女性）から Abu Dhabi の害虫（前掲）と害虫管理の実情の説明を受けた。組織図は下記に示すとおりである。

Fig. 1. PC プロジェクトの組織図



この組織が適正に機能しているかは把握できなかった。先進国の受け売りの域を脱していない。Pest Control の実態は 100%外部委託である。しかも企業の規模に応じて人口比の地区割りがなされ、企業間の競合（価格、技術、成果など）は避けられている。

図 2. PCO 企業の地区割り

Eagle Company は従業員 1000 名の大企業である。Alphamed Company が Eagle 社に続くが、他の 4 社は弱小で従業員教育も満足ではなく、杜撰な殺虫剤使用（猛毒の燻蒸剤の誤使用）によって人身事故を起こした（Eng. Mohamed 談）。

4. 防除作業と殺虫剤管理

4-1. Eagle 社の現場作業

公園の殺鼠作業、住宅地の蚊幼虫調査と野犬捕獲現場を視察した。我々の視察が事前に知らされたことも影響していると割引して考える必要もあるが、作業そのものには問題なかった。

4-2. 殺虫剤管理

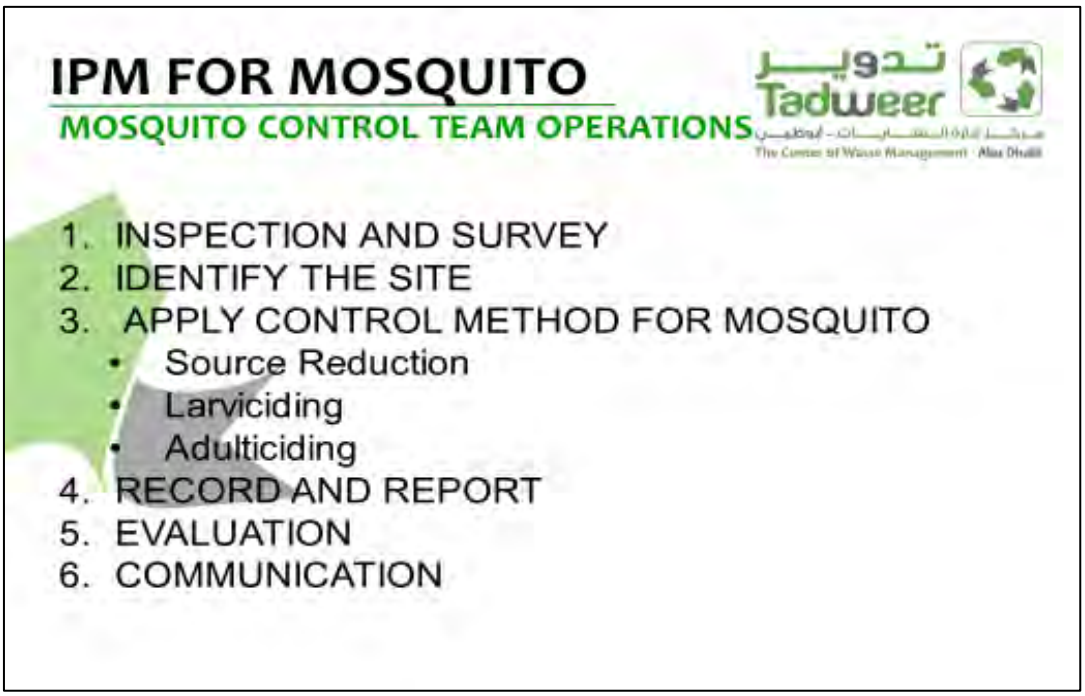
Eagle 社の管理部門を訪問し、殺虫剤の管理状況を視察した。危険物倉庫の管理は申し分がなかった。ここでは殺虫剤の小分け（ラベルが欠落し問題が大きい）は行われていない。従業員全員が英文のラベル（成分、用法容量、使用上の注意、保管など）を理解できるのは大きなメリットである。今後の研修などに有利である。殺虫剤などは最新のものであった。

4-3. Recording and Reporting

作業現場の記録は規定の用紙に記入されている。この記録は作業記録で終わっている。今後、害虫の発生消長、地理的分布、効力評価などアカデミックな分析が必要である。

4-4. IPM (Guideline of Integrated Pest Management) の順守

図 3. IPM の概念図



Eng. Mohamed and Eng. Ebtisam は IPM の概念は理解しているものの、PCO 企業がこのガイド欄を順守しているかの Audit はなされていない。まだ、IPM の概念は耳学問の域を脱していない。図 3 は日本はじめ先進国で Pest Control に導入されている IPM 理念、今回のプレゼンでも利用された。今後、PCO 企業でこのガイドラインが順守されているかの査察を CWM の Pest Control Division が行うことになる。

5. Laboratory 構想について

5-1. 箱物(Laboratory) について

当初、Abu Dhabi の CWM、Pest Control 部門から要請のあった Laboratory は必要最低限の実験ができる程度の規模を考えていたが、Eng Mohammed 氏の構想は Institute（研究所）であること、それ以外の小規模な施設は頭から排除したい考えであることが窺えた。

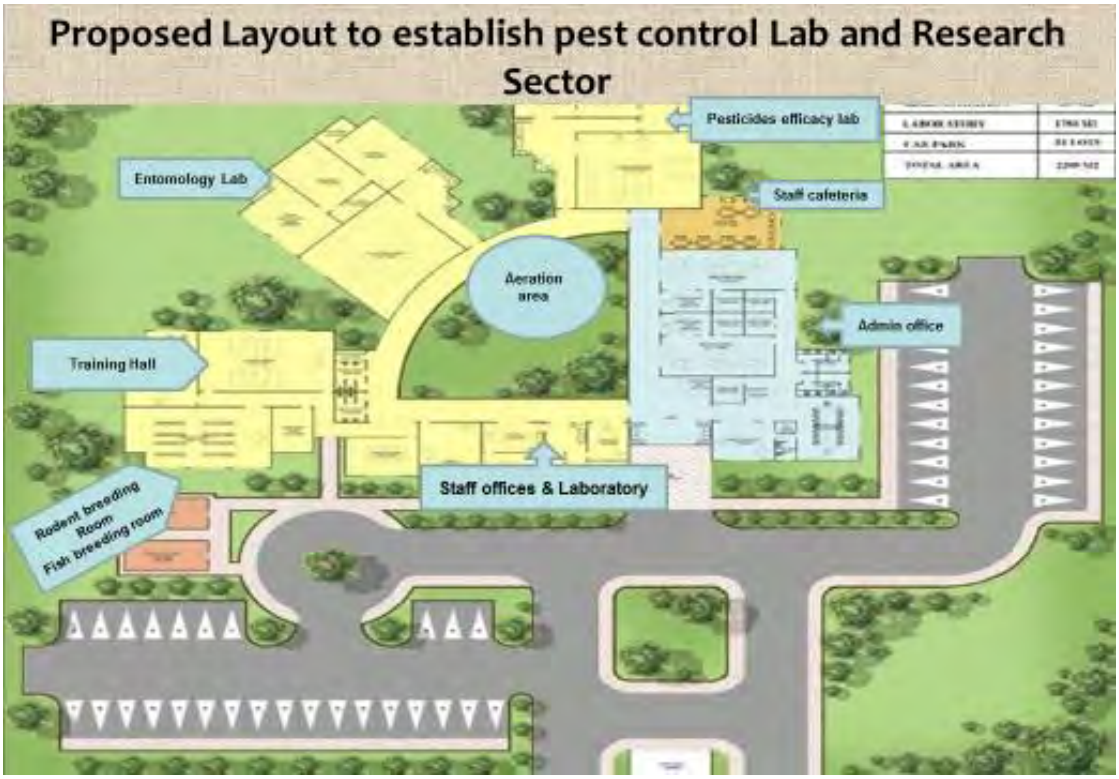
5-2. CWM の Institute（研究所）構想

スライドで示された研究施設の青写真は先進諸国の大学や国立の研究所 (Institute) を凌駕するものであった（図 4）。例えば、昆虫・ねずみ飼育室、研修センター、視聴覚教室、ミニ博物館などを備えたものである。彼がこのように大規模で先進的な施設にこだわるのは、この施設が Abu Dhabi, UAE のみならず、周辺の湾岸諸国に対しても共同利用を呼び掛けて、一大研究センターを設立したいからとうかがえた。

このような大規模な研究施設は小職の思慮の枠外である。専門家による設計図の作成、Insectalium、実験装置、視聴覚教室などを配置する。

5-3. Insectarium （昆虫飼育室）

図 4. CWM Pest Contro Director から提示された Institute



Institute の機能の一つが昆虫飼育室である。主な Pests（害虫＝チャバネゴキブリ、ワモンゴキブリ、イエバエ、ネッタイイエカなど）の飼育から開始する。まず、感受性系統を導入し、その後、フィールドから採集したコロニーの飼育を追加する。飼育コーナ（温度管理、湿度管理、照度管理）に付設した実験コーナ、動物飼育コーナ（吸血源のハツカネズミ、雛）、洗浄コーナ、機材コーナ（実験機器棚、顕微鏡、冷

蔵庫、冷凍庫など）を備える。

5-3.ソフト面（利用目的など）

設立された Laboratory の活用については、まだ十分検討されていない。現実には「駆除作業」は PCO 企業に丸投げの状況である。どのような害虫（Pests）が Abu Dhabi で確認されているかの List up だけの印象を受けた。

日本など先進国が取り組んでいる IPM は殺虫剤散布だけではなく、生息環境の整理、生息密度の把握、Less Chemical の導入などを考慮した害虫管理を目指すものである。CWM 側も漠然とした概念は理解している。この IPM 理念の導入は当国の先進的な PCO 企業には理解できると思われるが、CWM 側の指導・監督がレベルアップしなければ、絵にかいた餅に過ぎない。幸いなことに PCO との契約は PCO 企業の規模に応じて地区割りが行われているので、価格競争に陥る恐れはないと思われ、CWM がコミットしし易いもしれない。長期的に「特定企業の地区割り発注は」は時にコラプションに陥りやすい。CWM 側の Technician の知識・技術、管理能力、評価技術が PCO 企業側を納得させるレベルが求められる。

6. PC に関する日本側の投入について（投入）

6-1. 専門家派遣

日本から「昆虫飼育」「殺虫剤試験」「PCO 教育」「現場指導、特に効果判定」などの技術移転ができる専門家を派遣すには、当国の熱意が冷めないうちにスタートしたい。

6-2. 技術移転の相手

支配階級である CWM の Eng. Mohamed and Eng. Ebtisam 氏らではなく、技術者レベル(Technician) となる。支配階級の人々が地味な昆虫の飼育、殺虫剤実験を行うとは考えられない。

6-3. Pest Control Manual の作成

CWM & Japanese expert 共同で Pest Control Manual （英文）を作成する。内容は Pests in UAE, IPM, Insecticides, Application, Evaluation, Pest Monitoring system, Spray equipment, Laboratory management, Field evaluation of pesticides, etc. を含む。

6-4. Pest Control Seminar の開催

湾岸諸国の Pest Control 指導者、Technical staff, PCO 企業を相手に PCO セミナーを開催したい。

6-5. セミナー講師陣（案）

日本側：平尾素一（日本 PCO 協会長、PCO 関係のルール、IPM 理念の指導者）、
澤辺京子（国立感染症研究所、部長、昆虫と疾病）
田原雄一郎（日本ペストロジー学会、会長、ゴキブリ駆除の最前線）
William Robinson(USA, 国際都市害虫学会長、PC の学術指導者)
谷川　力（イカリ消毒、技術研究所長、ネズミの専門家）
橋本智幸（日本環境衛生センター、殺虫剤試験法専門家）

CWM: Pest Control Director, Eng. Mohamed Mahmoud Al Marzouqi

7. 技術移転スケジュール（別紙）

Tentative Pest Control Program						
Item	Who?	2014	2015	2016	2017	2018
Blueprint	JICA					
Construccion	Constractor					
Laboratry handling	Expert					
Insect introducing	Expert					
Education	Expert					
Investigation and data analisis	Expert					
Field study	Expert					
Pest control manual	CWN and Expert					
International seminar	Expert					

平成 26 年 9 月 10 日

アラブ首長国連邦、Abu Dhabi 首長国の廃棄物管理センター業務にかかわる Pest Control についての報告書

医昆虫学　田原雄一郎

調査目的

Abu Dhabi におけるペストコントロールに関して下記４点を中心に調査する、①どのような害虫（害獣）が発生する環境なのか、②Pest Control の実務は外部委託されている。その作業や殺虫剤管理は適正に行なわれているか、③防除委託の評価は適正に行われているか、④また、Abu Dhabi に設立予定の Laboratory（研究所）の構想と運用について、

調査結果および考察

Pests の 発生状況

今回の出張時期は猛暑かつ乾燥期のため、直接害虫の生息を確認できなかった。Al Ain での聞き取り調査結果では、イエバエは 10 月から翌年の 3 月初旬までとのことであった。Abu Dhabi で問題になっている害虫（獣）の特徴は Nuisance Pest に位置づけられる。Nuisance (煩い、汚い、怖い、非衛生的など心理的な害を与える害虫類) であり、Vector（感染症の伝播害虫）ではない。Nuisance Pests は都市環境に特徴的な現象であり、発展途上国では問題になっていない。Nuisance Pests の駆除では、生息許容範囲が決めにくい。なぜなら、Nuisance の感じ方は人や国民性によって異なるからである。主な害虫としては、**チャバネゴキブリ、ワモンゴキブリ、イエバエ、ネッタイイエカ、クマネズミ、ドブネズミ**であった。防除基準（生息レベル、許容レベル、措置レベル）を事前に決めておかなければ、ただ、駆除剤の施用だけに陥りやすい。また、Abu Dhabi では野良犬と野良猫も Pest Control の対象であった。

Abu Dhabi での Pest Control の実態

Pest Control の業務は 100%外部委託である。しかも企業の規模に応じて人口比の地区割りがなされ、企業間の競合は避けられている。最大の Eagle Company は従業員 1000 名の大企業で、殺鼠作業、蚊幼虫調査と野犬捕獲現場を視察した。我々の視察が事前に知らされたことも影響していると思われるが、作業そのものには問題なかった。殺虫剤の管理状況も申し分がなかった。従業員全員が英文のラベル（成分、用法容量、使用上の注意、保管など）を理解できるのは大きなメリットである。今後の研修などに有利である。殺虫剤は最新のものであった。作業現場の記録は規定の用紙に記入されている。この記録は作業記録で終わっている。今後、害虫の発生消長、地理的分布、効力評価などアカデミックな分析が必要である。

IPM (Guideline of Integrated Pest Management) の概念

Eng. Mohamed and Eng. Ebtisam は IPM の概念は理解しているのものの、まだ、IPM の概念は耳学問の域を脱していない。害虫防除のガイドライン(Manual) もないのに IPM はあり得ない。

Laboratory 構想について

Eng Mohammed 氏の構想は Institute（研究所）であること、それ以外の小規模な施設は頭から排除したい考えである。青写真は先進諸国の大学や国立の研究所 (Institute) を凌駕するものであった。例えば、昆虫・ねずみ飼育室、研修センター、視聴覚教室、ミニ博物館などを備えたものである。彼がこのように大規模で先進的な施設にこだわるのは、この施設が Abu Dhabi, UAE のみならず、周辺の湾岸諸国に対しても共同利用を呼び掛けて、一大研究センターを設立したいからとうかがえた。

Institute の機能の一つが昆虫飼育室である。主な Pests（害虫＝チャバネゴキブリ、ワモンゴキブリ、イエバエ、ネッタイイエカなど）の飼育から開始する。まず、感受性系統を導入し、その後、フィールドから採集したコロニーの飼育を追加する。飼育コーナ（温

度管理、湿度管理、照度管理）に付設した実験コーナ、動物飼育コーナ（吸血源のハツカネズミ、雛）、洗浄コーナ、機材コーナ（実験機器棚、顕微鏡、冷蔵庫、冷凍庫など）を備える。

ソフト面（利用目的など）

日本から「昆虫飼育」「殺虫剤試験」「PCO 教育」「現場指導、特に効果判定」などの技術移転ができる専門家を派遣すには、当国の熱意が冷めないうちにスタートしたい。

技術移転の相手

支配階級である CWM の Eng. Mohamed and Eng. Ebtisam 氏らではなく、技術者レベル(Technician) となる。支配階級の人々が地味な昆虫の飼育、殺虫剤実験を行うとは考えられない。

Pest Control Manual の作成

CWM & Japanese expert 共同で Pest Control Manual （英文）を作成する。内容は Pests in UAE, IPM, Insecticides, Application, Evaluation, Pest Monitoring system, Spray equipment, Laboratory management, Field evaluation of pesticides, etc. を含む。

Pest Control Seminar

湾岸諸国の Pest Control 指導者、Technical staff, PCO 企業を相手に PCO セミナーを開催したい。

セミナーおよび短期専門家（案）

平尾素一（日本 PCO 協会長、PCO 関係のルール、IPM 理念の指導者）、
澤辺京子（国立感染症研究所、部長、昆虫と疾病）
田原雄一郎（日本ペストロジー学会、会長、ゴキブリ駆除の最前線）
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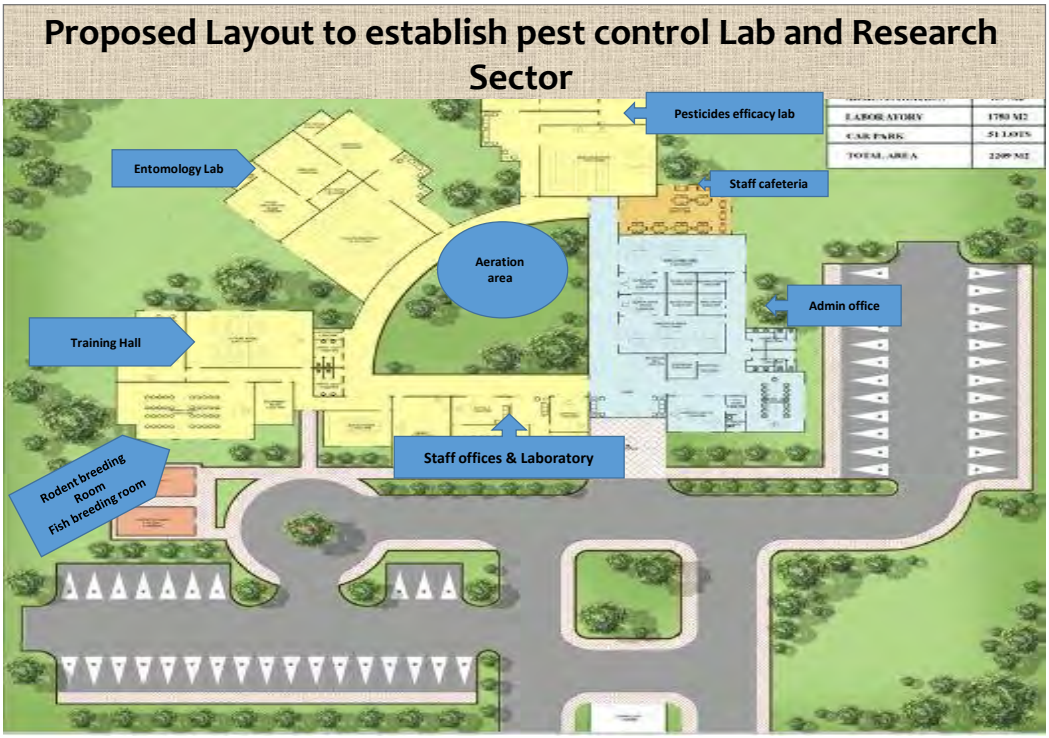
CWM: Pest Control Director, Eng. Mohamed Mahmoud Al Marzouq

Tentative Pest Control Program

Item	Who?	2014	2015	2016	2017	2018
Blueprint	JICA		→			
Construccion	Constractor		→	→	→	
Laboratry handling	Expert		→	→		
Insect introducing	Expert			→	→	
Education	Expert		→	→	→	
Investigation and data analisis	Expert		→	→	→	
Field study	Expert			→		
Pest control manual	CWN and Expert		→			
International seminar	Expert		→			

Eng. Mohammed 氏から示された Laboratory



Item of expenses	The 1st year	The 2nd year	The 3rd year	The 4th year	The 5th year	Total
Air fare (including airport tax etc)	3,884,557	6,898,033	4,175,842	3,435,398	3,620,509	**22,014,339**
Travel expenses (including miscellaneous travel expenses, outfit allowance, transfer allowance etc.)	7,285,000	12,460,000	7,946,000	5,256,000	5,492,000	**38,439,000**
Local activity costs (Necessary budget for the implementation of the project, Ex. Electricity, water for the project office	13,500,000	20,000,000	23,500,000	12,000,000	6,000,000	**75,000,000**
Facilities and Equipment for project activities (Project vehicle, PC, Training space and others)	6,250,000	12,500,000	12,500,000	12,500,000	6,250,000	**50,000,000**
Training in Japan	4,000,000	4,000,000	0	4,000,000	0	**12,000,000**
Remuneration for the Experts	21,031,000	34,469,000	19,523,000	12,573,000	13,296,000	**100,892,000**
Overhead Costs	43,744,000	71,694,000	40,607,000	12,573,000	13,296,000	**181,914,000**
Total	**99,694,557**	**162,021,033**	**108,251,842**	**62,337,398**	**47,954,509**	**480,259,339**

W o r k i n O M A N	No.	Team Members	The 1st year(2016)												The 2nd year(2017)												The 3rd year(2018)												The 4th year(2019)												5年次(2020)												Work in Oman (1=30days)	Desk work (1=20days)
			Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec		
	1	Team Leader/Marine Environment Management/Organizational Development		(65)					(65)				(65)			(65)					(65)				(65)			(65)					(65)				(65)			(65)					(65)				(65)			(65)					(65)				(65)		32.50	2.50
	2	Advisor on GIS database & Satellite data analysis		(21)					(21)				(21)			(21)		(21)							(21)			(21)		(21)							(21)			(21)									(21)			(21)									(21)		9.10	5.00
	3	Sub leader/Marine ecology (local consultant)				(43)							(30)			(30)			(30)			(30)			(30)						(30)						(30)						(15)						(15)						(15)						(15)		10.43	0.00
	4	Marine ecology (coral) (local consultant)					(30)						(30)			(30)			(30)			(30)			(30)						(30)						(30)																						(15)		8.50	0.00
	5	Marine biology (animals) (local consultant)					(30)						(30)			(30)			(30)			(30)			(30)																																				6.00	0.00
	6	Marine biology (birds)					(30)						(30)			(30)			(30)			(30)			(30)																																				6.00	1.00
	7	Marine biology (external ocean)					(30)									(30)			(30)			(30)			(30)																																				5.00	1.00
	10	Environmental education																	(30)			(15)			(30)			(15)			(30)						(30)						(15)						(15)						(15)						(15)		7.00	1.50
	11	Eco Tourism																	(30)			(15)			(30)			(15)			(30)						(30)						(15)						(15)						(15)						(15)		7.00	1.50
	12	Logistical support				(43)							(30)						(30)			(30)			(30)						(30)						(30)																						(15)		7.93	2.50
		National committee meetings					▲						▲						▲						▲						▲						▲						▲						▲						▲					▲			99.46	15.00
		Workshops											△																								△												△															
		Training in Japan							▽Heigh off		▽GIS	▽ Ecosystem survey								▽Ecosystem survey																▽ GIS								▽EBSA																					
																																																															Total MM	114.46

Draft as of 22 Jan 2015

DRAFT

TERMS OF REFERENCE
for development of
THE MARINE ENVIRONMENT CONSERVATION STRATEGY 2040 AND ACTION PLANS

Ministry of Foreign Affairs

Members of the

National Committee on Marine Environment

Conservation, Sultanate of Oman

and

Japan International Cooperation Agency

February 2015

Terms of Reference for Development of The Marine Environment Conservation Strategy 2040 and Action Plans

Table of Contents

Abbreviations and acronyms

CBD	Convention on Biodiversity
DGAFA	Directorate General of Administrative and Financial Affairs
DGCA	Directorate General of Climate Affairs
DGEA	Directorate General of Environmental Affairs
DGNC	Directorate General of Nature Conservation
EBSA	Ecologically and Biologically Significant Areas
EEZ	Exclusive Economic Zone
EICD	Environmental Inspection and Control Department
FP	Focal Point
GCC	Gulf Cooperation Council
ITD	Information Technology Department
JAMSTEC	Japan Agency for Marine-Earth Science and Technology
JICA	Japan International Cooperation Agency
MAF	Marine Science & Fisheries Center of Ministry of Agriculture and Fisheries
MECA	Ministry of Environment & Climate Affairs
MECD	Marine Environment Conservation Department
MFA	Ministry of Foreign Affairs
MOTC	Ministry of Transport and Communications
MPAs	Marine Protected Areas
MRMWR	Ministry of Regional Municipalities and Water Resources
MSFC	Marine Science & Fisheries Center
NC	National Committee
ODA	Official Development Assistance
QEIC	Qurm (Mangrove) Environment Information Center
ROPME	Regional Organization for the Protection of the Marine Environment
SQU	Sultan Qaboos University
TOR	Terms of Reference
WG	Working Group

1. Background

Since the early years, the Omani environment obtained His Majesty's attention and care, who advised to conserve and maintain its resources as a natural important evolving heritage to be utilized for the development plans and projects (MECA website). The Ministry of Environment and Climate Affairs (MECA) was established in 2007, which is a manifestation of the importance on environment placed by His Majesty as well as the Omani society at large. In particular, marine environment of Oman is unique because of its diversity and abundance of nature as habitat and ecosystem of the meeting place of the three oceans, namely, Arabian Gulf, Sea of Oman and Arabian Sea. In addition, the marine environment of Arabian Sea off Omani shore is believed to influence the African East Coast particularly in winter, which makes its conservation even more important.

In 2013, Japan's Prime Minister Shinzo Abe announced JICA's new scheme of technical cooperation targeted at graduates of ODA recipient status, particularly with the Gulf Cooperation Council (GCC) countries including the Sultanate of Oman. The Japan International Cooperation Agency (JICA), which is an arm of the Government of Japan in charge of international cooperation, has a long history of collaborating with Oman in the field of environmental conservation in support of MECA's efforts for environmental conservation, particularly in the field of mangrove conservation. Thus, cooperation in the field of marine environmental conservation has been identified as a strong candidate for that new technical cooperation scheme, based on the history of cooperation between Oman and Japan in that field. In particular, since Oman is in the process of developing long-term strategies in all sectors in line with the Oman Vision 2040, sustainability of marine environment and sustainable use of ecosystem services are important challenges during the next several decades. Based on the above, a bilateral cooperation between Oman and Japan for development of a long-term strategy for marine environment conservation has been proposed. In the meantime, MECA has taken an initiative to establish a National Committee on Marine Environment Conservation (NC), comprising of 7 Ministries and academic institutions[1] concerned with marine environment conservation. MECA chairs the NC and undertakes coordinating roles of the NC.

[1] Ministry of Environment and Climate Affairs (MECA), Sultan Quaboos University, Ministry of Agriculture and Fishery, Ministry of Transportation and Communication, Ministry of Tourism, Supreme Council for Planning and Ministry of Regional Municipalities and Water Resources.

The present document provides the terms of reference (TOR) for collaboration between the Ministry of Foreign Affairs, NC coordinated by MECA and JICA for development of the Marine Environment Conservation Strategy 2040 ('the Strategy') and its Action Plan.

2. The Overall Scope and Justifications for cooperation

The Marine Environment Conservation Strategy comprises of a vast area of work, which requires intra-Ministerial collaboration within MECA as well as inter-Ministerial and multidisciplinary cooperation involving other closely related Ministries as well as the academic sectors, represented by the NC.

First, with respect to the reporting process of the Project, the Ministry of Foreign Affairs is proposed to play the liaison roles between the Cabinet Supervisory Committee, the NC and JICA (the international partner). This is depicted in Figure 1 below.

Figure 1 Reporting process structure

The overall scope of the substantive content of the Strategy is shown in the Figure 2 below. As the Figure 2 shows, some parts of the Strategy are being developed by several different Departments of MECA with their own resources.

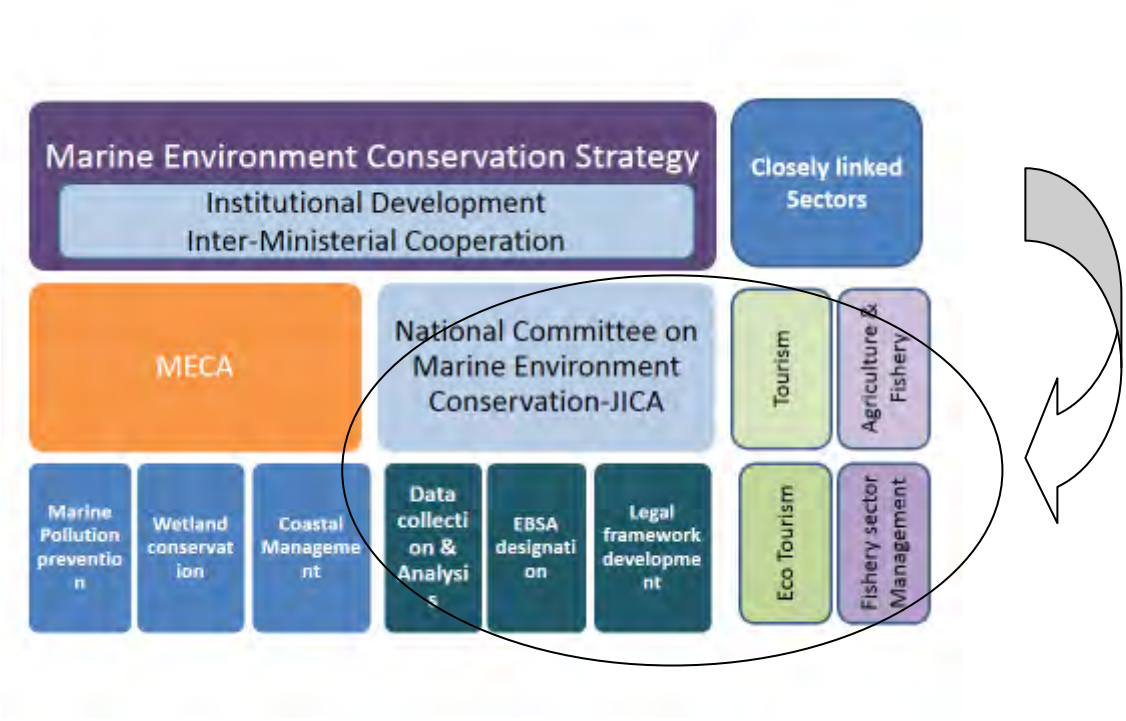


Figure 1. Substantive scope of the Strategy

As the Figure 2 above shows, the 'circled' sectors (i.e. NC-JICA cooperation and closely linked sectors) comprise of the key segments of the Marine Environment Conservation Strategy, which may be characterized as follows:

1. **Cooperation in the sector of strategic importance for Oman, for development of non-oil industries**: Marine environment conservation in Oman is of at most importance to the country not only from the ecological sustainability point of view but also from economic and industrial development perspectives. The fishery sector is the second largest industry in Oman, next to the oil and gas sector. Diversification of industries is a major policy agenda for Oman. As such, development of the fishery sector is of critical importance for overall economic development of Oman into the future. It is essential to note that without ensuring sustainable management of the marine

environment, there is no future for the fishery sector development. Thus, it is not an overstatement to say that a long term strategy to ensure sustainable marine environment conservation dictates the future of the fisheries sector of Oman. Therefore, it makes a perfect sense for bilateral cooperation with Japan to focus on and invest in such issue of strategic significance for Oman.

2. **Fulfilment of Oman's international Commitment**: As a Party to the Convention on Biodiversity (CBD), Oman has a duty to designate 10% of the coastal and marine areas as Marine Protected Areas (MPAs). The activities under the proposed Project, which is part of the Marine Environment Conservation Strategy is indispensable in order for Oman to achieve the Aichi Target 11 and fulfils its important international commitment.

Box 1. Aichi Target 11 of the Convention on Biodiversity

Aichi Target 11 of CBD
By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

3. **Cooperation in the knowledge- and technology-intensive segments with Japan's comparative advantage**: The sector identified for NC-JICA cooperation is an extremely knowledge- and technology- intensive areas of work, for which Oman benefits from inputs from Japan's knowledge and technical experience. At present, Oman suffers from a shortage of data in the field of marine environment. Technologies such as satellite image analysis of the coastal areas/ocean as well as sophisticated research methodologies with trained personnel are required in order to conduct data collection and analysis effectively and efficiently in order to ensure minimum costs for the maximum results. It is thus proposed that JICA collaborates primarily in the field of data collection and analysis, including human resources development of the concerned researchers and public sector personnel, required for EBSA (Ecologically or Biologically Significant

Area) designation, which is necessary in order to determine the MPAs. This is an extremely knowledge as well as technology-intensive areas as compared with the other components of the Marine Environment Conservation Strategy, thus requires cooperation with Japan.

4. **Human resources, institutional and legal systems development for implementation of the Strategy**: Due to the nature of the Marine Environment Conservation Strategy, its development as well as implementation requires both inter-Ministerial as well as intra-Ministerial, multidisciplinary cooperation, which is represented by the NC. As such, capacity development in human resources, institutional and legal systems is expected to benefit from collaboration with an international partner such as JICA, which has an extensive international experience in these areas.

3. Outline of the Project

In this document, the scope for NC -JICA cooperation within the overall Marine Environment Conservation Strategy and its Action Plan development (i.e. the 'circled segments' in figure 1), which is planned as a 5-year collaborative project, is referred to as 'the Project'. The following shows the hierarchy of objectives for the Project.

1. Title of the Project

Development of Marine Environment Conservation Strategy and Action Plans

2. Overall Goal (in 3-5 years after the Project ends)

- Aichi Target 11 of CBD has been attained in the coastal area.

3. Project Purpose

The Marine Environment Conservation Strategy and Action Plans have been developed, along with institutional capacity development among the core organizations to ensure their implementation.

4. Outputs

1) Data collection has been completed in order to determine Ecologically or Biologically Significant Area (EBSA) in the coastal area including ecologically related open sea.
2) EBSA has been determined in more than 10% of Oman coastal territorial water including ecologically related open sea based on data evaluation and analysis.

3) Legal and institutional framework on marine environmental conservation is established and drafting of the Marine Environment Conservation Strategy and Action Plan[2] is completed.
4) Pilot project(s) utilizing EBSA sites (e.g. Eco-tourism and Environment education), in cooperation with Ministry of Tourism

5. Activities

1) Data collection has been completed in order to determine Ecologically or Biologically Significant Area (EBSA) in the coastal area including ecologically related open sea area.
    a. Determine the data required based on the 7 criteria as determined by COP IX/20 the scientific criteria, as contained in annex I (see Box 2. Below).
    b. Develop data collection strategies and methods.
    c. Establish the data collection team and other organizations for cooperation (e.g. Environmental Department of each Governorate and fisherman communities, Sultan Qaboos University (SQU), Marine Science & Fisheries Center of Ministry of Agriculture and Fisheries (MAF), 'Diving Team' and Ministry of Foreign Affairs (MFA), cooperation with the Regional Organization for the Protection of the Marine Environment (ROPME) and relevant institutions in Japan)
    d. Analyze satellite image to identify coastal ecosystems (e.g. seagrass bed, seaweed bed, tidal flat, coral reef) and develop the distribution map.
    e. Collect information where data are available through interviews from local specialists and from existing database.
    f. Develop metadatabase.
    g. Train specialists of taxonomy and ecology of marine organisms and ecosystem.
    h. Collect data through field survey where data are not available and train MECA staff how to collect data through field survey.
    i. Develop database with GIS after training MECA staff.
    j. Develop manuals and handbooks for coastal marine ecological surveys.

[2]The Action Plan should also consider development of the guidelines for 'best practice aquaculture,' which is harmonized with marine environment conservation.

Box 2. COP IX/20 (Marine and coastal biodiversity: 14. Designing network of MPAs), Annex 1

Scientific Criteria for identifying ecologically or biologically significant marine areas (EBSA)

- Uniqueness or rarity
- Special importance for life history stages
- Importance for threatened, endangered or declining species and/or habitats
- Vulnerability, fragility, sensitivity or slow recovery
- Biological productivity
- Biological diversity
- Naturalness

2) EBSA has been determined in the coastal area including ecologically related open sea based on data evaluation and analysis.
    a. Evaluate date collected and conduct GIS mapping after training MECA staff.
    b. Conduct data analysis using Marxan software after training MECA staff.
    c. Select more than 10% EBSA of coastal area based on data evaluation and analysis.
    d. Develop a manual for selection of EBSA.

3) Legal and institutional framework on marine environmental conservation is established and drafting of Marine Environment Conservation Strategy and Action Plan is completed.
    a. Define the terms of reference (TOR) of the NC.
    b. Evaluate the current status of marine environment and ecosystem services in Oman coastal territorial water plus Exclusive Economic Zone (EEZ).
    c. Analyze the current and expected issues on marine environment.
    d. Review the relevant existing legal and institutional framework, including Royal Decrees, Ministry Decisions, Guidelines and International conventions.
    e. Review other relevant plans and strategies as well as organizations and their scope of work.
    f. Develop a policy on marine environment conservation and ecosystem service utilization.
    g. Demarcate the roles of relevant organizations on marine environment

conservation.

h. Establish Working Groups (WGs) to draft the following guidelines and action plans[3]:
   - Guidelines for Good Practice on Aquaculture operated in coastal area from both marine resource utilization and environment conservation aspects;
   - Guidelines for monitoring system for coastal marine environment;
   - Guidelines for marine environment education;
   - Action Plan for determining the Marine Protected Area (MPA) in coastal area; and
   - Action Plan for development of research system for open sea.

i. Draft Marine Environment Conservation Strategy.

j. Hold national and international workshops on marine environment conservation.

4) Pilot project(s) in preparation for utilizing EBSA sites (e.g. Eco-tourism and Environment education), in cooperation with Ministry of Tourism[4]

   a. Identify the EBSA site in consultation with the Ministry of Tourism (e.g. Bar Al Hakiman, Wetland Protected Area)

   b. Develop plan for a project for sustainable utilization of the area, including community involvement

   c. Implement the project (e.g. walk path, exhibitions, visitor centers, environmental education program, etc.)

   d. Develop monitoring and evaluation plans of the project

4. Proposed timeline

Activities		2016		2017		2018		2019		2020	
No		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1)	**Data collection for determination of EBSA**										

[3] Measures against marine pollution will be considered in Coastal Zone Management Strategy.

[4] If it is feasible, Output 4 on Eco Tourism may start its implementation in 2015, separately from the rest of the proposed Project. A separate hierarchy of objectives for Output 4 as an independent project is provided in Annex 1 for reference.

	a. Determine the data required for EBSA										
	b. Develop the collection strategies and methods										
	c. Establish the data collection team										
	d. Analyze satellite image to identify coastal ecosystem										
	e. Collect existing information										
	f. Develop metadatabase										
	g. Train specialists of taxonomy and ecology										
	h. Collect data through field survey										
	i. Develop database with GIS										
	j. Develop manuals and handbooks for biological and ecological surveys										
2)	**EBSA determination**										
	a. Evaluate data and conduct GIS mapping										
	b. Conduct data analysis using Marxan software										
	c. Select more than 10% EBSA of coastal area										
	d. Develop a manual for selection of EBSA										
3)	**Legal and institutional framework and drafting of Marine Environment Conservation Strategy**										
	a. Establish the National Committee (NC) (*: Hold the NC)	*	*	*	*	*	*	*	*	*	*
	b. Define the terms of reference (TOR) of NC										
	c. Evaluate the current status of marine environment and ecosystem services in Oman territorial water plus EEZ										
	d. Analyze the current and expected issues on marine environment										
	e. Review the relevant exiting legal and institutional framework										
	f. Review other relevant plans and strategies										
	g. Develop a policy on marine environment conservation and ecosystem service utilization										
	h. Demarcate the roles of relevant organization on marine environment conservation										
	i. Establish WGs										
	-Guideline for Marine EIA										
	-Guideline for Good Practice on Aquaculture										
	-Guideline for monitoring system										
	-Guideline for marine environment										

	education					
	-Action Plan for determining the MPA					
	-Action Plan for development of research system for open sea					
	j. Draft Marine Environment Conservation Strategy					
	k. Hold national and international workshops on marine environment conservation *1, *2: National, collaboration with SQU and ROPME *3: International, with GCC countries	***1**		***2**		***3**
4)	Pilot project in preparation for utilizing EBSA sites in cooperation with Ministry of Tourism					
	a. Identify the EBSA site					
	b. Develop plan for a project for sustainable utilization of the area					
	c. Implement the project					
	d. Develop monitoring and evaluation plans of the project					

Note: Several training in Japan shall be conducted based on the needs of the NC members. The details of the training, including its content, duration and participants, shall be decided at a later stage.

5. Proposed inputs

1. Demarcation of Activities

No	Activities	Oman Side	Japan Side
1)	**Data collection for determination of EBSA**		
	a. Determine the data required for EBSA	Responsible to determine	Provide necessary information to determine thorough NC, WG and workshop.
	b. Develop the collection strategies and methods	Responsible to develop	Assist Oman side
	c. Establish the data collection team	Establish the team of Oman side and cooperate with Japan side	Establish the team of Japan side and cooperate with Oman side
	d. Analyze satellite image to identify coastal ecosystem	Appoint the proper members to be transferred the satellite image analysis technique.○	Transfer the satellite image analysis technique to Oman side in Japan and Oman
	e. Collect existing information	Responsible to collect	Assist Oman side○
	f. Develop metadatabase	Responsible to develop	Assist Oman side
	g. Train specialists of taxonomy and ecology	Appoint the proper trainees, and coordinate with SQU and MSFC	Train specialist uder the collaboration with SQU an MSFC
	h. Collect data through field survey	Responsible to conduct field survey with Japan side	Responsible to conduct field survey with Oman side and provide necessary information for capacity development on the

			ecosystem survey
	i. Develop database with GIS	Appoint the specialist(s) on GIS and cooperate with Japan side for developing database	Assist to develop database through dispatching expert and training course in Japan
	j. Develop manuals and handbooks for biological and ecological surveys	Appoint the responsible person to cooperate with Japan side	Assist to develop manuals and handbooks
2)	**EBSA determination**		
	a. Evaluate data and conduct GIS mapping	Appoint the responsible staff(s) for EBSA determination to cooperate with Japan side	Transfer the procedures of EBSA determination to Oman side through training course in Japan and Oman
	b. Conduct data analysis using Marxan software	(ditto)	(ditto)
	c. Select more than 10% EBSA of coastal area	(ditto)	(ditto)
	d. Develop a manual for selection of EBSA	(ditto)	(ditto)
3)	**Legal and institutional framework and drafting of Marine Environment Conservation Strategy**		
	a. Establish the National Committee (NC) (*: Hold the NC)	Responsible to establish and steer the NC	Assist Oman side
	b. Define the terms of reference (TOR) of NC	Responsible to define the TOR	Assist Oman side
	c. Evaluate the current status of marine environment and ecosystem services in Oman territorial water plus EEZ	Appoint responsible staff to organize WG and discuss on these issues	Assist Oman side
	d. Analyze the current and expected issues on marine environment		
	e. Review the relevant exiting legal and institutional framework		
	f. Review other relevant plans and strategies		
	g. Develop a policy on marine environment conservation and ecosystem service utilization		
	h. Demarcate the roles of relevant organization on marine environment conservation		
	i. Establish WGs		
	-Guideline for Good Practice on Aquaculture	Appoint responsible staff to organize WG and discuss on this issue(ditto)	Assist Oman side(ditto)
	-Guideline for monitoring system	(ditto)	(ditto)
	-Guideline for marine environment education	(ditto)	(ditto)
	-Action Plan for determining the MPA	(ditto)	(ditto)
	-Action Plan for development of research system for open sea	(ditto)	(ditto)
	j. Draft Marine Environment Conservation Strategy	Appoint responsible staff to organize WG and discuss on this issue	Assist Oman side
	k. Hold national and international workshops on marine environment conservation	Appoint responsible staff to organize WG and discuss on this issue	Assist Oman side

4)	**Pilot project in preparation for utilizing EBSA sites in cooperation with Ministry of Tourism**	
	a. Identify the EBSA site	Appoint responsible staff to coordinate and supervise the cooperation. Assist Oman side
	b. Develop plan for a project for sustainable utilization of the area	Appoint responsible staff to coordinate and supervise the cooperation. Assist Oman side
	c. Implement the project	
	d. Develop monitoring and evaluation plans of the project	

2. Resource Inputs

(a) Human resources and institutions in Oman

Cabinet Supervisory Committee

Ministry of Foreign Affairs

(MECA)

- Project Director

  Overall responsibilities to direct the project and coordinate within Oman side and with Japan side (tentatively proposed as Director General, Nature Conservation Dept, MECA, to be confirmed.)

- Deputy Project Director

  Assist the Project Director, (tentatively proposed as Director, Marine Conservation Department, MECA, to be confirmed.)

- Marine Ecosystem Specialist/leader of field survey team

  Responsibilities to implement activities for the Output 1) & 2) and coordinate with SQU, MSFC and Japan side

- Unit leader of field survey on seagrass, seaweed, tidal flat and birds

  Responsibilities to implement field surveys on mentioned above.

- Unit leader of field survey on coral reef

  Responsibilities to implement field surveys on mentioned above.

- Unit leader of field survey on marine animals and open sea

  Responsibilities to implement field surveys on mentioned above.

-GIS/ Database Specialist

  Responsibilities to develop matadatabase, GIS database and satellite image analysis model under the assistance of Japan side

-Environment Education Specialist

  Responsibilities to develop an environment education plan

-Nature Reserve (Ecotourism) Specialist

Responsibilities to implement activities for Output 4) and to coordinate with MOT

-Field survey assistant team in each Environmental Agency of Governorate

Formulate filed survey assistant team consists of a staff and several members and support field surveys in each governorate

(SQU)

- Coral reef Specialist

Implement and instruct coral reef survey with MECA and Japan side

- Student(s)

Assist coral reef survey

(MSFC)

- Cooperate to implement activities for the Output 1), 2) & 3) with Oman side.

(b) Dispatch of Experts from Japan

-Team Leader/ Marine Environment Conservation planning

Overall responsibilities on quality management of the project and coordinate with Oman side

- Deputy Team Leader/ Marine Environment Management

Assist the Team Leader, manage the implementation of the project and supervise the implementation of activities for Output 3)

- Deputy Team Leader/Marine biology (Seagrass, Seaweed, Tidal flat)

Assist to implement activities for the Output 1) & 2) and coordinate with Oman side

- Marine biology (Coral reef)

Assist to implement coral reef survey

- Marine biology (Marine animals)

Assist to implement marine animal survey

- Marine biology (Birds)

Assist to implement bird survey

- Marine Biology (Open sea)

Assist to implement open sea survey

- Satellite image Analysis

Assist and instruct to develop the satellite image analysis model

- GIS/Database Specialist

Assist and instruct to develop the GIS database and relevant database for EBSA

- Environment Education

Assist and instruct to develop an environmental education plan

- Ecotourism

  Assist to implement activities for Output 4) and to coordinate with MOT

- Coordinator

  Coordinate the overall activities of Japan Team in both Oman and Japan

(c) Machinery and Equipment

- Cars
- Research vessels (SQU, Ministry of Foreign Affairs, MSFC)
- Boats (Fisherman)
- Multi water quality meter (from Japan)
- Landsat 8 satellite image is proposed, which is made available free of charge..

6. Proposed implementation Structure

With regard to the reporting structure of the Project, please refer to Figure 1 under item 2. of the present document.

In terms of the Project organization chart for implementation of activities, please see is the Figure 3 below.

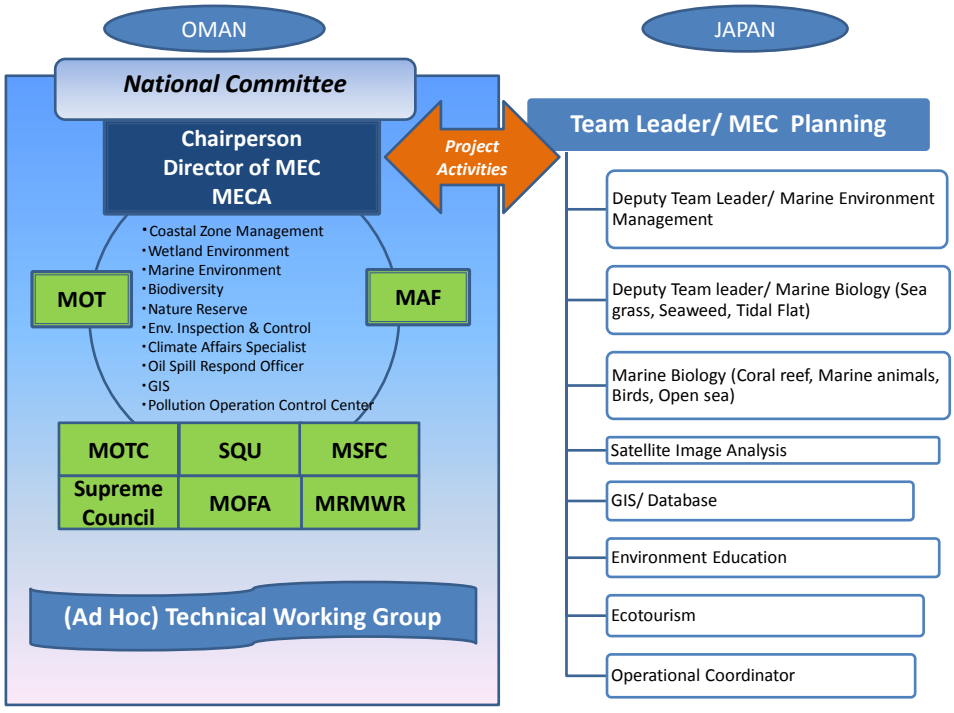


Figure 3. Proposed Implementation Structure

The roles and assignments of relevant organizations are as follows:

(1) MECA

(a) Project Director

Project Director will be responsible for overall administration and implementation of the Project.

(b) Deputy Project Director

Deputy Project Director will assist the Project Director.

(c) Marine Environment Management Specialist

Marine Environment Management Specialist will be responsible for compiling Marine Environment Conservation Strategy, coordination of collaboration with SQU and MCFC, and necessary works for operating the NC meetings and relevant working groups (WGs).

(d) Marine Biology/ Ecosystem Specialist

Marine Biology/Ecosystem Specialist will be responsible for data collection and analysis and assistance of the entire EBSA selection process

(e) Environment Education Specialist

Environment Education Specialist will be responsible for developing Environment Education Action Plan and Guidelines on environment education for fishermen, local people, children and tourists, implementation of pilot training courses, and coordination of Environment Department of each Governorate.

(f) GIS/Database Specialist

GIS/Database Specialist will be responsible for GIS mapping and building database.

(g) Administrative Coordinator

Coordinator will be responsible for all administrative works.

(2) Members of the National Committee

MECA will arrange the National Committee consists of MECA staff and representatives of relevant organizations.

In addition, necessary technical working group (TWG) will be formulated under the NC, but member of TWG will not be limited to the representatives.

No	Members	Remarks
1. Ministry of Environment, Climate Affairs (MECA)		
1.1	Director, DMEC, DGNC, MECA	Chairperson

1.2	Coastal Zone Management, DMEC, MECA	
1.3	Wetland Environment, DMEC, MECA	
1.4	Marine Environment Section, DMEC, MECA	
1.5	Biodiversity Department, DGNC, MECA	
1.6	Nature Reserve Department, DGNC, MECA	
1.7	Environment Inspection & Control, DGEA,MECA	
1.8	Climate Affairs Specialist, DGCA, MECA	
1.9	Oil Spill Respond Officer, MECA	
1. 10	GIS, ITD, DGAFA, MECA	
1.11	Pollution Operation Control Center, Undersecretary's office, MECA	Focal Point (FP) for ROPME
2	Department of Marine Science and Fisheries, College of Agriculture and Fisheries, Sultan Quaboos University	
3.Ministry of Agriculture and Fishery		
3.1	Fleet Development Section, MAF	
3.2	Marine Science & Fisheries Center, MAF	
4	Supreme Council for Planning	
5	Navigation , Maritime, Ministry of Transportation and Communication	
6	Department of Tourism Development, Ministry of Tourism	
7	Senior Specialist Water Resources, Ministry of Regional Municipalities and Water Resources	

Technical Working Groups will be formulated in accordance with targeted guidelines and action plans.

And *ad hoc* WG on the specific issue will be formulated according to necessity.

(3) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MECA on any matters pertaining to the implementation of the Project.

(4) Joint Coordinating Committee

Joint Coordinating Committee is usually established for cooperation of projects implemented with JICA support, in order to facilitate inter-organizational coordination. Since NC for this Project is expected to function for similar purpose, the necessity of JCC

will be determined through discussion between Oman and Japan sides.

(5) Project Site(s) and Beneficiaries

Project site is Oman coastal territorial water plus EEZ.
Direct beneficiaries include NC members, in particular personnel at the following Ministries and insitutions: MECA, Ministry of Tourism, EICD, Environmental Department of related Governorates, Marine Science and Fisheries Center (MSFC) of Ministry of Agriculture and Fisheries (MAF), Researcher and student of the Sultan Qaboos University (SQU). The Project is also expected to directly benefit fisherman and the fisheries sector, tourism industry, and school children through some of the Project activities.

Annex 1. Proposed Pilot project on Eco Tourism

＜Overall Goal＞
The established mechanism of EBSA site is functional.
＜Project Purpose＞
The mechanism of managing EBSA site is established.
＜Output＞
Output 1: Identify the pilot EBSA site in consultation with the Ministry of Tourism (e.g. Al Kheiran Coast Line).
Output 2: Develop plan for a project for sustainable utilization of the area, including community involvement.
Output 3: Implement the project according to the plan.
Output 4: Develop monitoring and evaluation plans of the project.
＜Activities＞
Activities 1 1-1 Define ecotourism 1-2 Develop ecotourism guideline 1-3 Develop criteria to utilize EBSA as ecotourism site 1-4 Set up rules and regulations of pilot EBSA site/s
Activities 2 2-1 Designate ecotourism development area 2-2 Agree with organizational framework (e.g. ecotourism committee) to manage the site 2-3 Plan necessary small-scale infrastructure and program (e.g. walk path, exhibitions, visitor centers, toilets, ecotourism and environmental education programs) to receive visitors 2-4 Plan necessary equipment and human resource to operate the site properly 2-5 Identify necessary training areas such as management, community involvement framework, ecotourism guides, and etc.
Activities 3 3-1 Set up ecotourism committee among stakeholders 3-2 Organize regular committee meeting 3-3 Supervise construction of small-scale infrastructure 3-4 Support to procure necessary equipment and human resource for proper operation of the site 3-5 Support to develop ecotourism and environmental education activities / programs 3-6 Implement training programs
Activities 4 4-1 Select items to be monitors (e.g. influence on natural environment, satisfaction of ecotourism activities, social and economic impact, local awareness and etc. 4-2 Set up verifiable quantitative and qualitative indicators 4-3 Decide methodologies to obtain necessary measures 4-4 Implement regular monitoring and evaluate the result 4-5 Review the rules and regulations according to the evaluation

Outline of Terms of Reference ("TOR")
for
Technical Cooperation ("TC Project")
between
MECA, Sultanate Oman and JICA
for Development of
Marine Environment Conservation and Development Strategy 2040 and Action Plan

This is under consideration within JICA Study Team

16, October 2014

Kazuhiro YOSHIDA
JICA Study Team

Findings in this Mission -1

1. Institutional aspects
   a. Department of Marine Environment Conservation is only department in MECA implementing practical works on marine environment.
   b. The necessity for capacity development and accumulation of baseline data on the marine environment is the first priority because experiences of the Ministry has not been accumulated enough since the reorganization in 2007.
2. Schedule related to Oman Vision 2040
   a. The pillars of strategy of DMEC for Vision 2040 of MECA should be proposed to the Ministry within 2015.
   b. The new five year plan will start from 2016.

Findings in this Mission -2

3. Technical aspects
   a. Strengths
      1. Diversity and abundance of nature as habitat and ecosystem
      2. Unique marine environment consists of three oceans, Arabian Gulf, Oman Sea and Arabian Sea
      3. Progress of registration of marine protected areas
   b. Challenges
      1. To attain Aich Target 11 of CBD for Marine Protected Area, 10 per cent of coastal and marine areas
      2. To register the valuable nature in the international registration, such as Ramsar, World Heritage.

Tentative Concepts of Marine Environment Conservation and Development Strategy 2040 ("Strategy 2040") and Action Plan

1. Sustainability of Marine Environment harmonized with 'Oman Vision 2040'
2. The Goal: To attain Aich Target 11 of CBD for Marine Protected Area, 10 per cent of coastal and marine areas and its expansion
3. The Action Plan must consist of;
   - To cooperate and make consensus with relevant organizations through National Committee (NC)
   - To collect scientific and rational information for developing "Strategy 2040"
   - To implement proper capacity development among institutional, technical/scientific, educational and social aspects

Tentative Framework of TOR for TC Project -1

1. Objectives
   - To prepare the policy to be integrated with 'Vision 2040 of MECA'
   - To develop "Strategy 2040" and its Action Plan
2. Duration: 4 years (2015-2018)
3. Supposed Contents of "Strategy 2040" and Action Plan

   3.1 Marine Biodiversity Conservation Strategy

   a. Targets of the coastal marine environment
      a. Turtle habitat
      b. Mangrove (out of scope of this TOR)
      c. Coral
      d. Seagrass and seaweed
      e. Tidal flat
      f. Waterfowl
   b. Targets of the off-shore and deep sea environment
      a. Mammals
      b. Fishery resources
      c. Sea birds

Tentative Framework of TOR for TC Project -2

3.2 Marine Pollution Prevention Strategy

3.3 Coastal Zone management Strategy (Out of scope of this TOR)

3.4 Sustainable Utilization of Nature for Tourism

3.5 Cooperation of Relevant Organizations

3.6 Legal and Institutional Framework (including EIA)

3.7 Action Plans

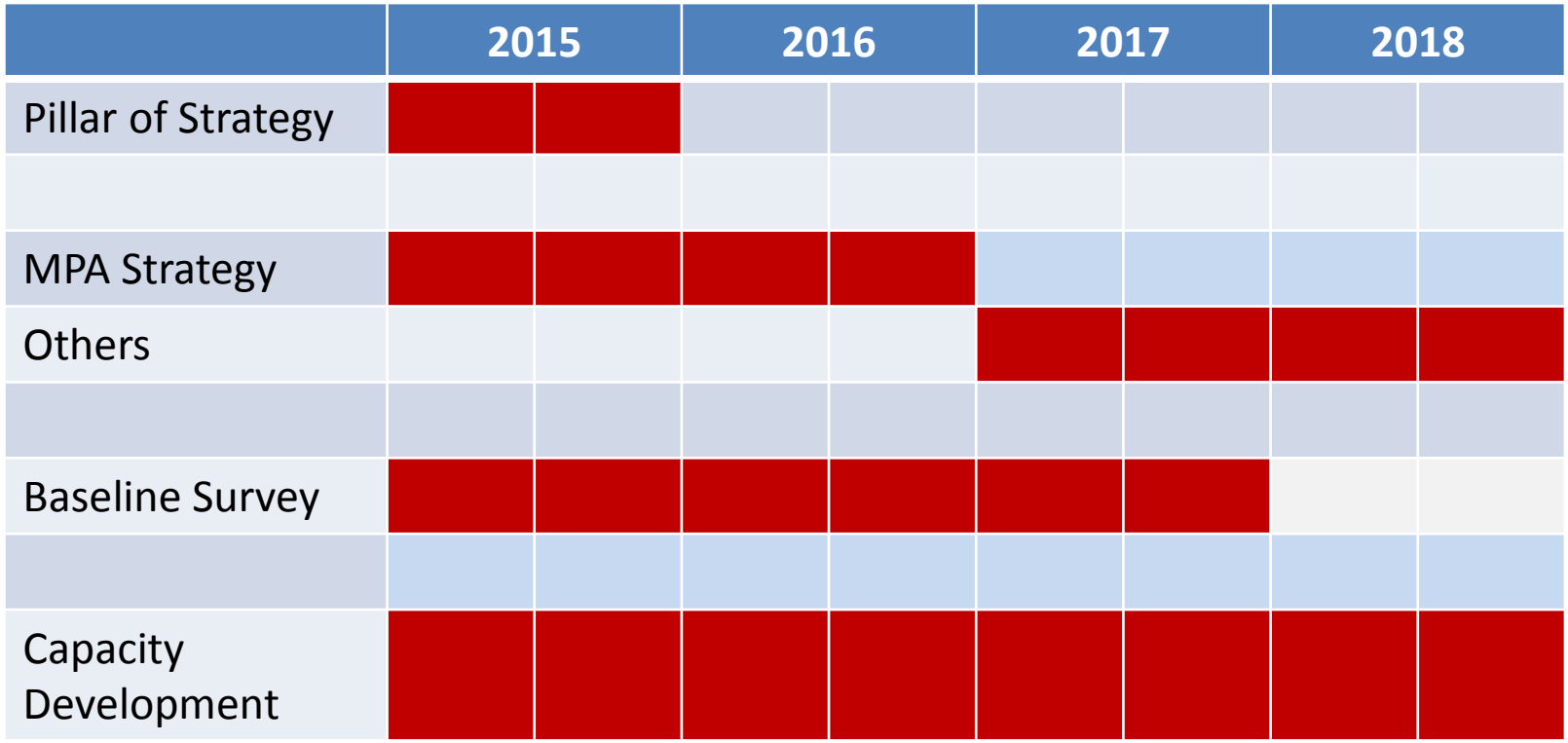
Scope of Works -1

1. To steer National Committee
   a. To identify members
   b. To arrange NC meetings
   c. To arrange cooperation works through NC
   d. To make consensus with all relevant organizations
2. To implement baseline survey for following purposes;
   a. To assess the current environmental status of marine waters and biodiversity
   b. To develop environmental marine indicators and targets to evaluate the performance of marine environment management.
   c. To determine the main threats and pressure on marine environment and ecosystem.
   d. To establish the monitoring programs
   e. To develop a guidelines for management of marine sensitive area and hot spots
   f. To develop methodologies for the assessment of coastal and marine ecosystem status and threat assessment and mapping.
   g. Coastal and Marine Ecosystem classification (Ecosystem inventory, mapping, ecosystem services evaluation, resources management and monitoring, habitat modelling etc...).

Scope of Works -2

3. To implement training courses in Japan and Oman and hold workshops in Oman
   a. Training course in Japan
      - ✓ Class separated
      - ✓ Institutional and Practical/Technical
   b. Training course in Oman
      - ✓ Practical
   c. Workshops in Oman
4. To develop public awareness program

Roadmap


2015
2016
2017
2018
Pillar of Strategy
MPA Strategy
Others
Baseline Survey
Capacity Development

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Finish, thank you!

Conservation of Marine biodiversity and ecosystem service

Several case studies in Japan and CBD, and some suggestion to Oman case

Yoshihisa SHIRAYAMA

Japan Agency for Marine-Earth Science and Technology

Why I am here?

- I am an expert of marine biodiversity
- Expert of marine environment (Mr. Yoshida)
- Expert of environment-friendly tourism (Ms. Hara)
- JICA supports (Mr. Toriba, Ms. Tanaka)
- Technical Cooperation between JICA and Ministry of Environment Oman

Contents

- Recent Actions of Ministry of Environment Japan for Marine Biodiversity Conservation
- Recent Actions of Ministry of Industry and Trade Japan for Marine Biodiversity Conservation
- Some notes on Oman Biodiversity

Why biodiversity

- Status of Marine Environment reflects marine biodiversity
- Marine biodiversity is the essential for good ecosystem services
  - Fisheries
  - Environment friendly tourism
  - Stability of ecosystem function
  - Genetic resouces
- Needs strategic action for biodiversity conservation

Marine Biodiversity Conservation Strategy

March 2011

- Ministry of Environment Japan 2011

Outline of the strategy

- Background
- Objectives
- Biodiversity in the ocean and its ecosystem services
- Fundamentals
- Development of Measures

Background

- This Strategy is formulated by the Ministry of the Environment in Japan
- Responding to increasing public awareness on marine biodiversity
- On the basis of the "National Biodiversity Strategy (2010)" under the "Basic Act on Biodiversity"
- On the basis of the "Basic Act on Ocean Policy" and "Basic Plan on Ocean Policy"

Objectives

- The Strategy aims to protect the biodiversity to support the sound structure and function of marine ecosystems
- Also to use ecological services of the ocean, or its blessings, in a sustainable manner.
- The Strategy provides a basic view and direction of measures for conservation and sustainable use of the marine biodiversity.

Biodiversity in the ocean and its ecosystem services

- - Marine biodiversity supports our survival and daily life. -
- Rich biodiversity in Japanese water
- Rich and sound ecosystem supported by biodiversity provide “ecosystem service”
- Biodiversity is deteriorated, and ecosystem services are degraded by human activities.

Rich biodiversity in Japanese water

- World largest biodiversity based on the study of Census of Marine Life
  - Large EEZ
  - Various climate zones, several warm & cold currents, numerous islands, and complicated coastlines & bottom topography (ex., trenches, sea mounts) create diverse marine environments with a variety of ecosystems (ex., seaweed beds, tidal flats, coral reefs, brackish water).
  - Long history of biodiversity study

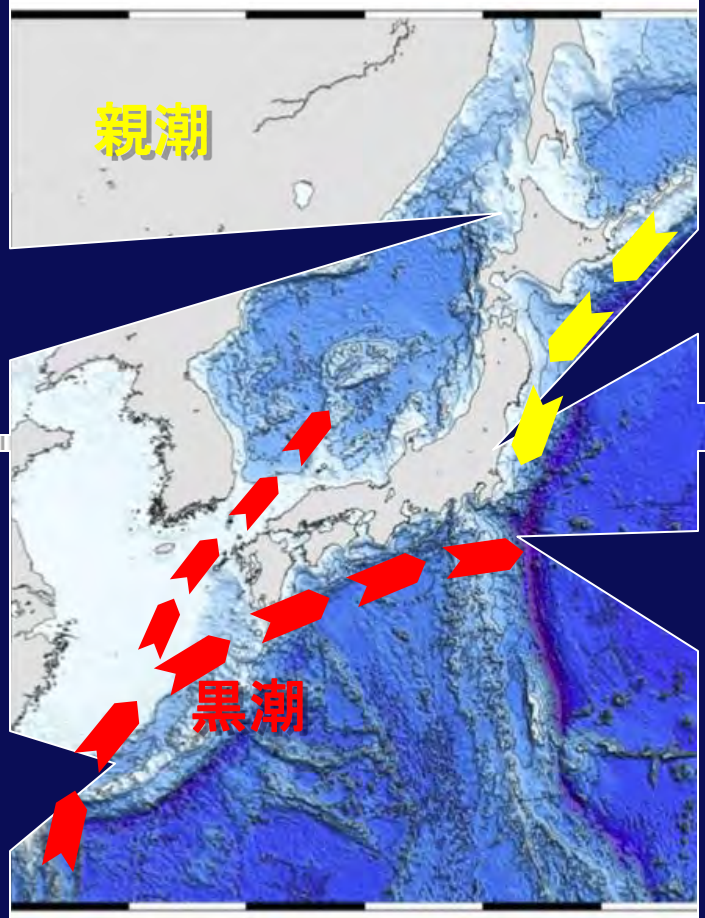
Why Japanese Biodiversity is High?

High diversity of Habitat

From Ice water to Coral reef

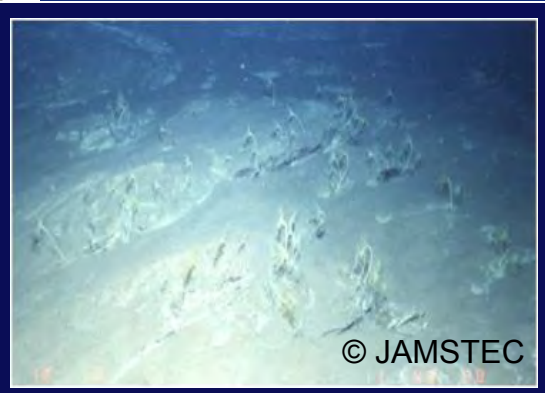
From tidal flat to trench

Ctenophore in drift ice



Tidal flat

Corals



Crinoids, 9100m deep

Rich Ecosystem Service

- Spiritual comfort
- Clean water
- Stabilization of climate
- Circulation of nutrients
- Food supply (ex., seafood)
- Genetic resources (ex., medicine)
- Recreation (ex., diving and shellfish gathering)

Fundamentals (1/2)

- Recognition of the importance of marine biodiversity on the basis of scientific data.
- Integrated management of the sea (the land and coastal zone)
- Measure the characteristics of marine areas within jurisdiction of Japan and factors influencing on them
- Effective measures to utilize local knowledge and technology

Fundamentals (2/2)

- Marine Protected Areas as one of the effective means for conservation of the biodiversity.
- Definition of marine protected area
- *Marine areas designated and managed by law or other effective means, in consideration of use modalities, aimed at the conservation of marine biodiversity supporting the sound structure and function of marine ecosystems and ensuring the sustainable use of marine ecosystem services.*

Development of Measures

1. Improvement of baseline information
2. Identification of factors influencing the marine biodiversity to implement measures to reduce their impacts
3. Implementation of measures appropriate to characteristics of individual areas
4. Improvement of Marine Protected Areas and enhancement of their networking
5. Facilitation of the public acceptance and involvement of various entities

Aichi Target 11 of CBD

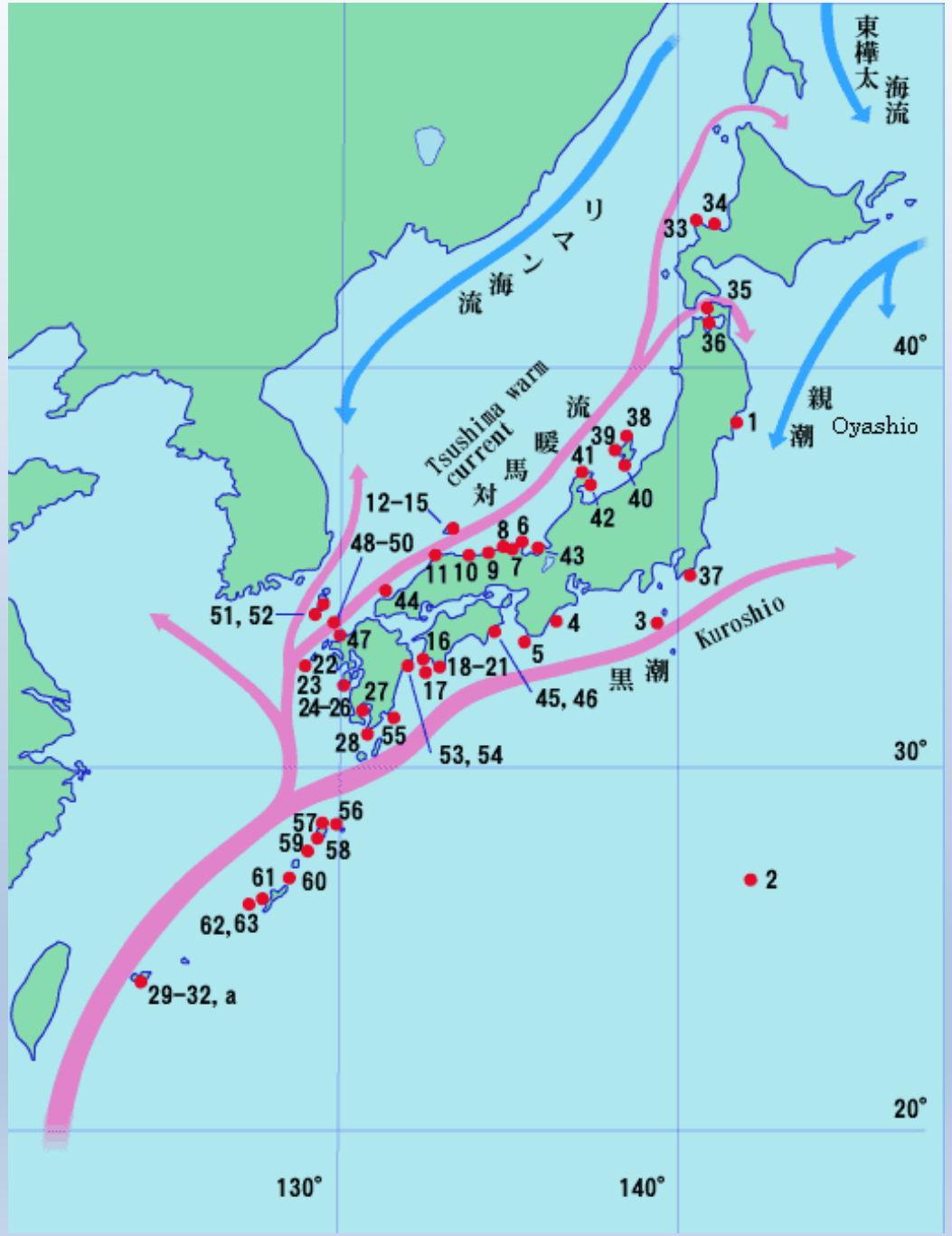
- By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

Existing MPAs in Japan

<Protection of Natural Scenery>

- National Parks, Quasi-National Parks, Prefectural Natural Parks (Natural Parks Law)
- Natural Coastal Protected Zone (Law Concerning Special Measures for Conservation of the Environment of the *Seto* Inland Sea)

63 Marine Parks in Japan



Marine Parks in Japan

Existing MPAs in Japan

<Protection of Natural Environment or Habitat>

- Nature Conservation Area (The Nature Conservation Law)
- Wildlife Protection Area (Wildlife Protection and Hunting Law)
- Natural Habitat Conservation Areas (Law for the Conservation of Endangered Species of Wild Fauna and Flora)
- Natural Monument (Law for Protection of Cultural Properties)

Existing MPAs in Japan

<Protection and Cultivation of Fishery Resources>

- Protected Water Surface (Fisheries Resource Protection Law)
- Coastal Fishery Resources Development Area, Designated Marine Area (The Law Relating to the Promotion of Marine Fishery Resources Development)
- Designated Marine Areas designated by Prefectures and Fishery Associations (Fisheries Law, Fishery Resources Conservation Law, Fishery Cooperative Act)
- Common Fishery Right Area (Fisheries Law)

Fishermen dicides how to collect fishes sustainably

図２３　漁業者によるブイ作成

Existing MPAs (Summary)

- Total Area = 8.3 % of territorial waters + EEZ
- Area does matter, but improving the level of management in the existing MPAs is also important
- Challenge for the near future: Expanding the MPAs through the existing legislations to meet the Aichi Target 11

CBD and Marine Protected Area (MPA)

- In COP9 (2008 at Bonne), EBSA concept was introduced.
- Decision COP IX/20 (Marine and coastal biodiversity: 14. Designing network of MPAs)
  - Adopts the scientific criteria, as contained in annex I to the present decision, for identifying ecologically or biologically significant marine areas in need of protection, and the scientific guidance, contained in annex II to the present decision, for designing representative networks of marine protected areas, as recommended by the Expert Workshop on Ecological Criteria and Biogeographic Classification Systems for Marine Areas in Need of Protection

Scientific Criteria for identifying ecologically or biologically significant marine areas （EBSA）

- Uniqueness or rarity
- Special importance for life history stages
- Importance for threatened, endangered or declining species and/or habitats
- Vulnerability, fragility, sensitivity or slow recovery
- Biological productivity
- Biological diversity
- Naturalness

Two additional Annexes

- Annex II
  SCIENTIFIC GUIDANCE FOR SELECTING AREAS TO ESTABLISH A REPRESENTATIVE NETWORK OF MARINE PROTECTED AREAS
- Annex III
  FOUR INITIAL STEPS TO BE CONSIDERED IN THE DEVELOPMENT OF REPRESENTATIVE NETWORKS OF MARINE PROTECTED AREAS:

Selecting of EBSA is key

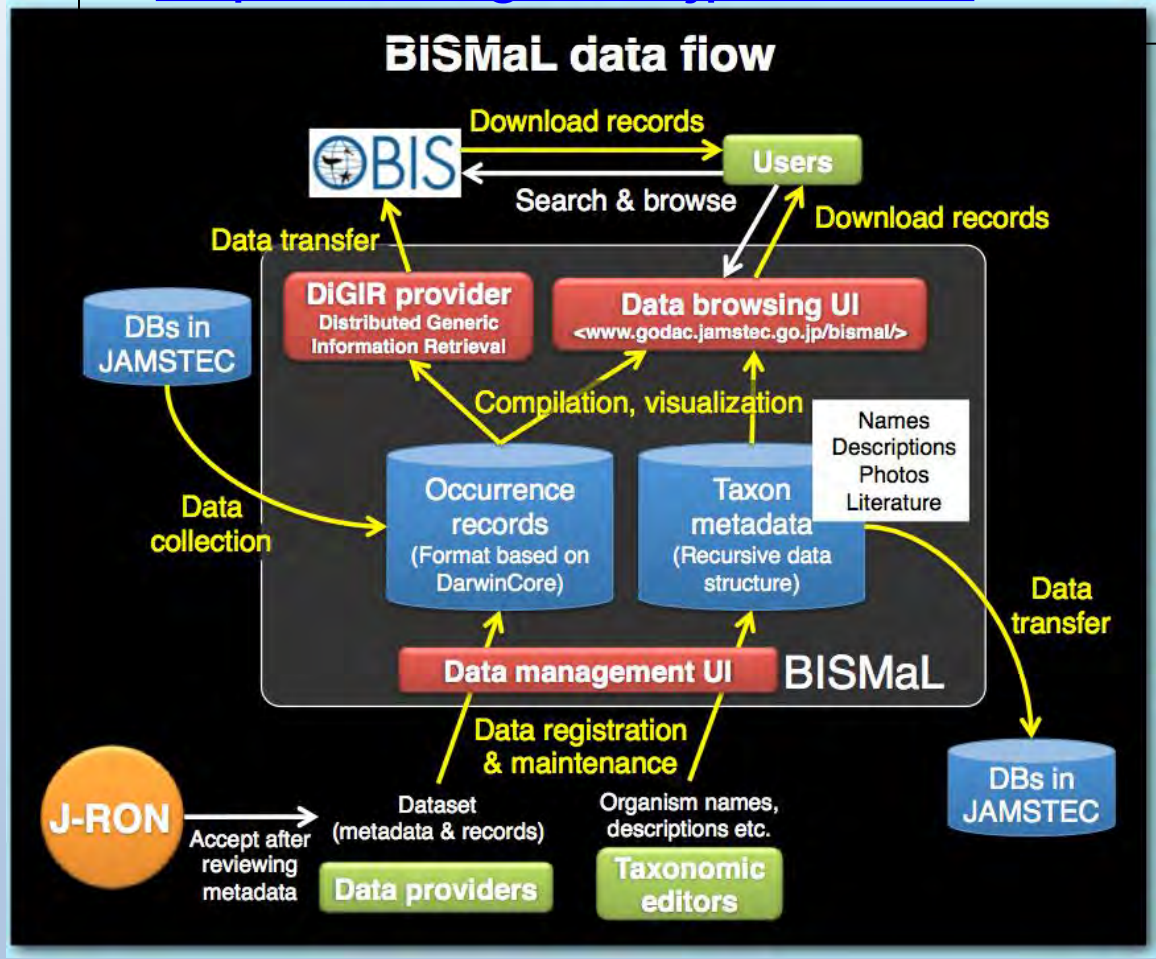
- Japanese EBSA selection activities of MOE
  - 2011 Scientific Committee was established
  - 2011-2012 Collection of existing basic data
  - In collaboration with marine biodiversity strategic science research program
  - 2012-2013 Selection of EBSA using computer program
  - 2013 Expert review
  - 2014 Final draft completed

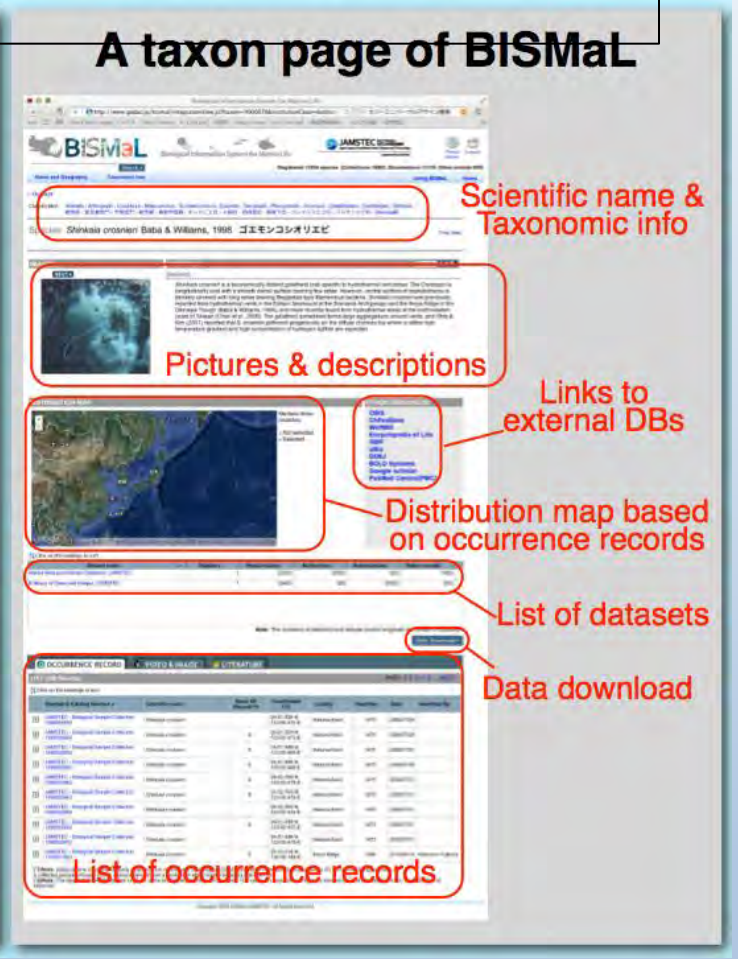
List of data set collected by each research unit

team	Habitats	Data amount
1	regional biodiversity in Asia	1,896,739
2	kelp forest and seaweed beds	23,504
3	seagrass beds	2,509
4	coral reef	18,904
5	plankton communities in pelagic water	82,539
6	deep-sea chemosynthesis-based communities	43,360
total		2,067,555

Since 2011, the project collected over 2067,555 records, and studied to establish the protocol to select ecologically and biologically significant area (EBSA). These results are adopted as expert opinion onto the committee for the important marine area in Japan, and will be contribute to achieve the Aichi Target and adopted as the baseline data of discussion on the International Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES).

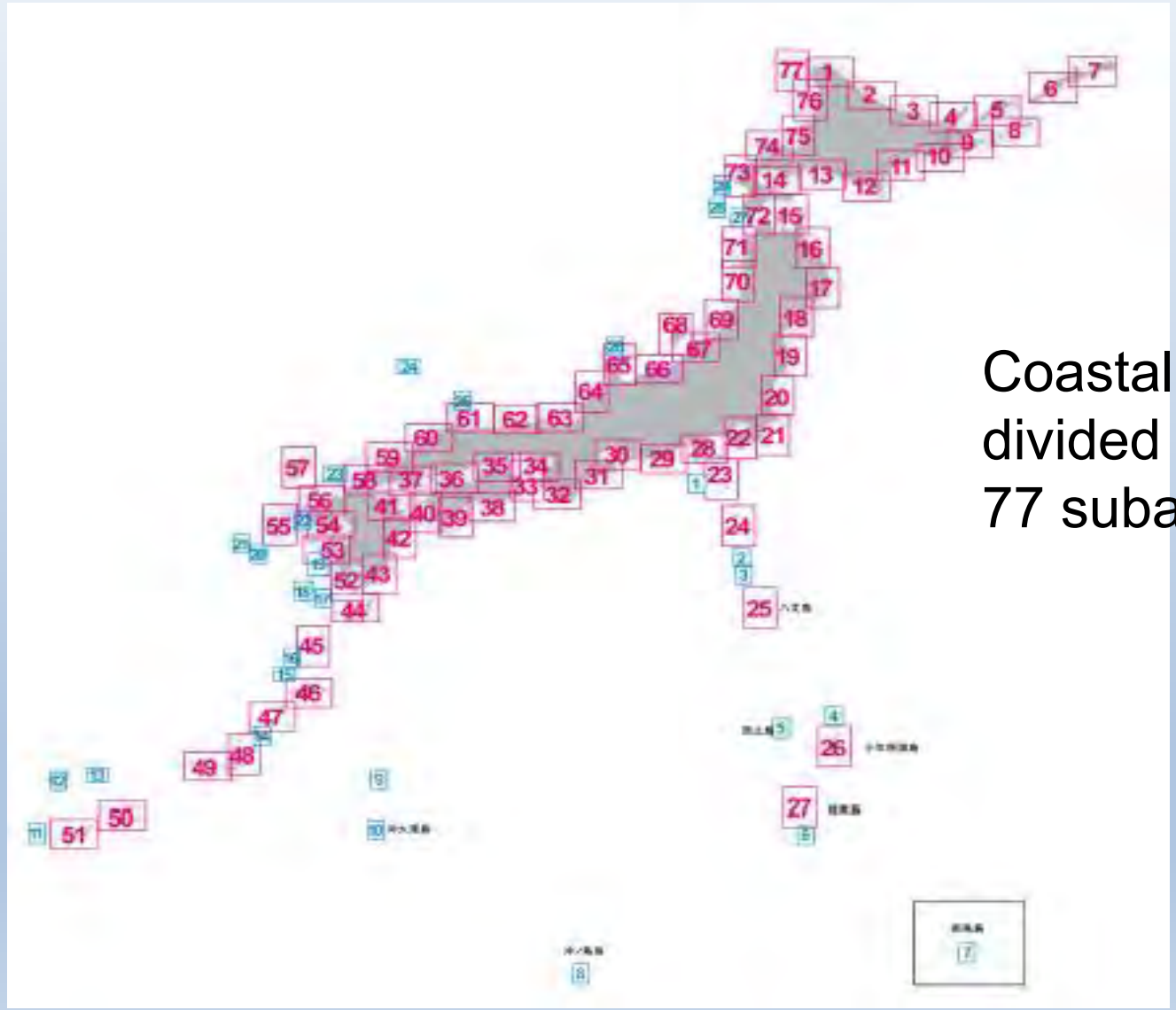
Biological Information System for Marine Life (BISMaL) <http://www.godac.jp/bismal/>





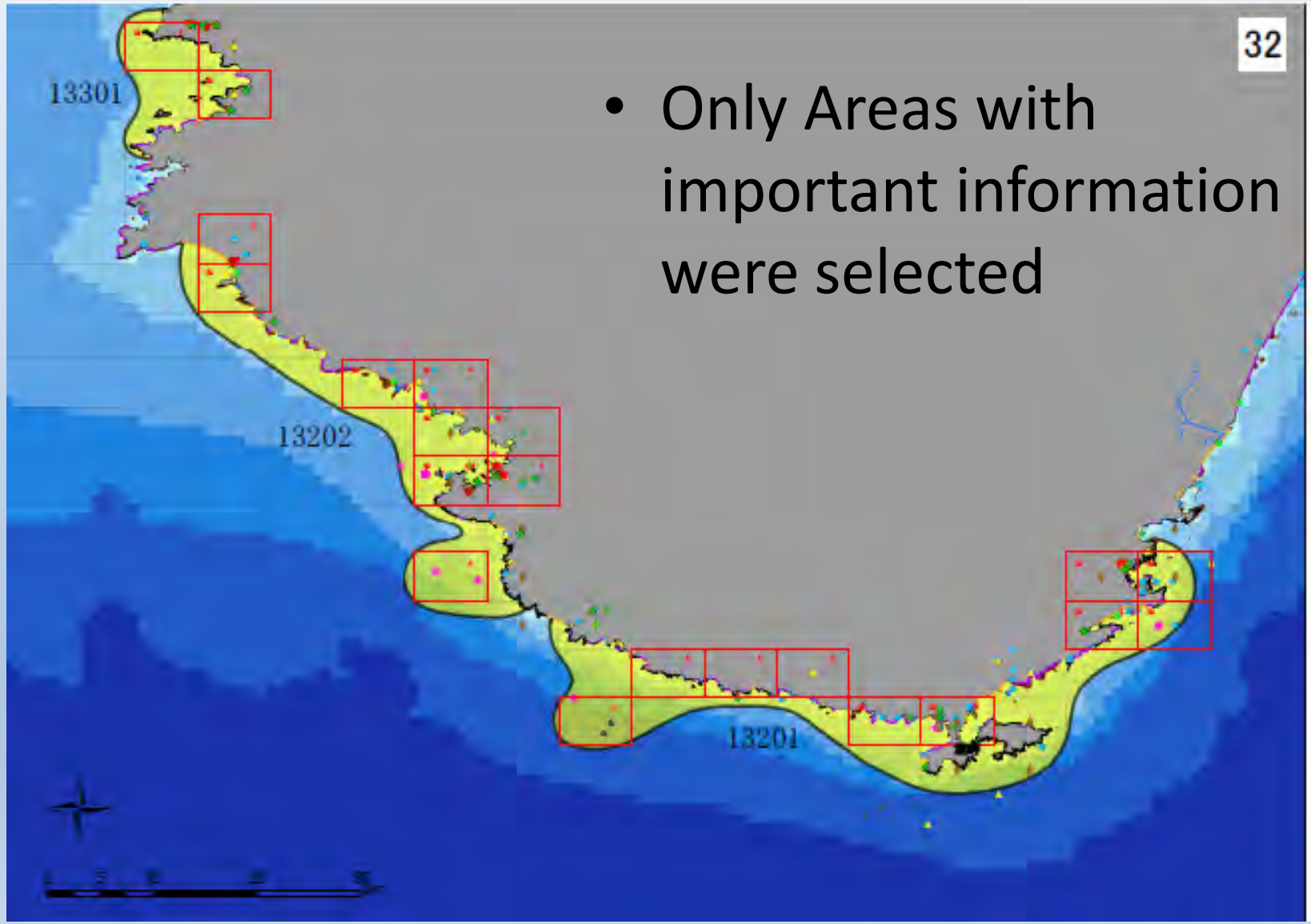
BISMaL is an integrated data system that employs the Darwin Core schemas to handle occurrence records of organisms. It provides photographs; brief descriptions on taxonomy, morphology, and ecology; videos, distribution records, and references for each species or its higher taxon. BISMaL began to provide data to OBIS in 2010 to compensate for the scarceness of deep-sea data. It was also decided that the Japan Regional Node of OBIS (J-RON) should be hosted to further integrate Japanese marine biodiversity information.

Analysis of coastal area



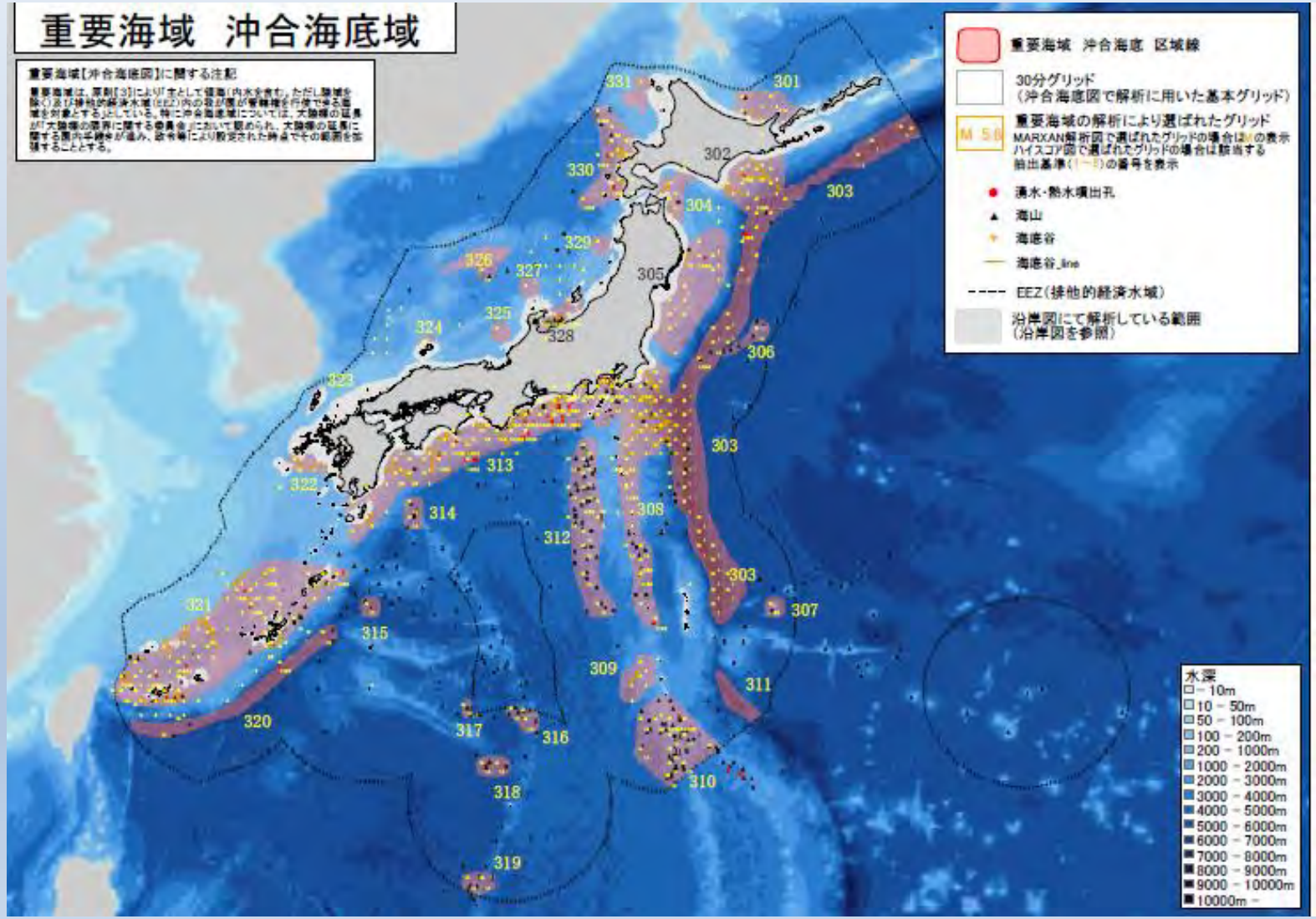
Coastal area were
divided into
77 subareas

Analysis of subareas



- Only Areas with important information were selected

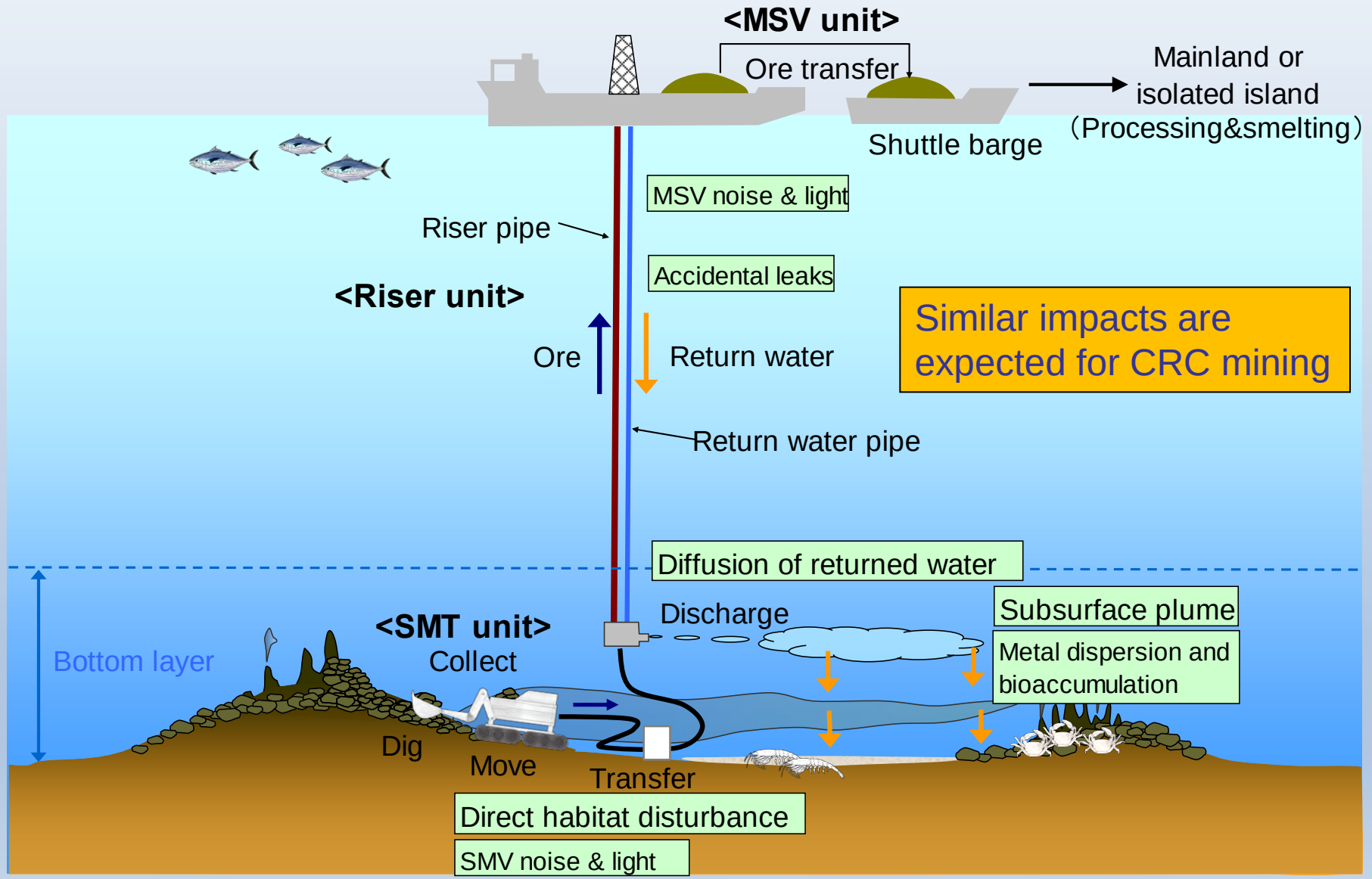
Selected EBSA
(off shore bottom area)



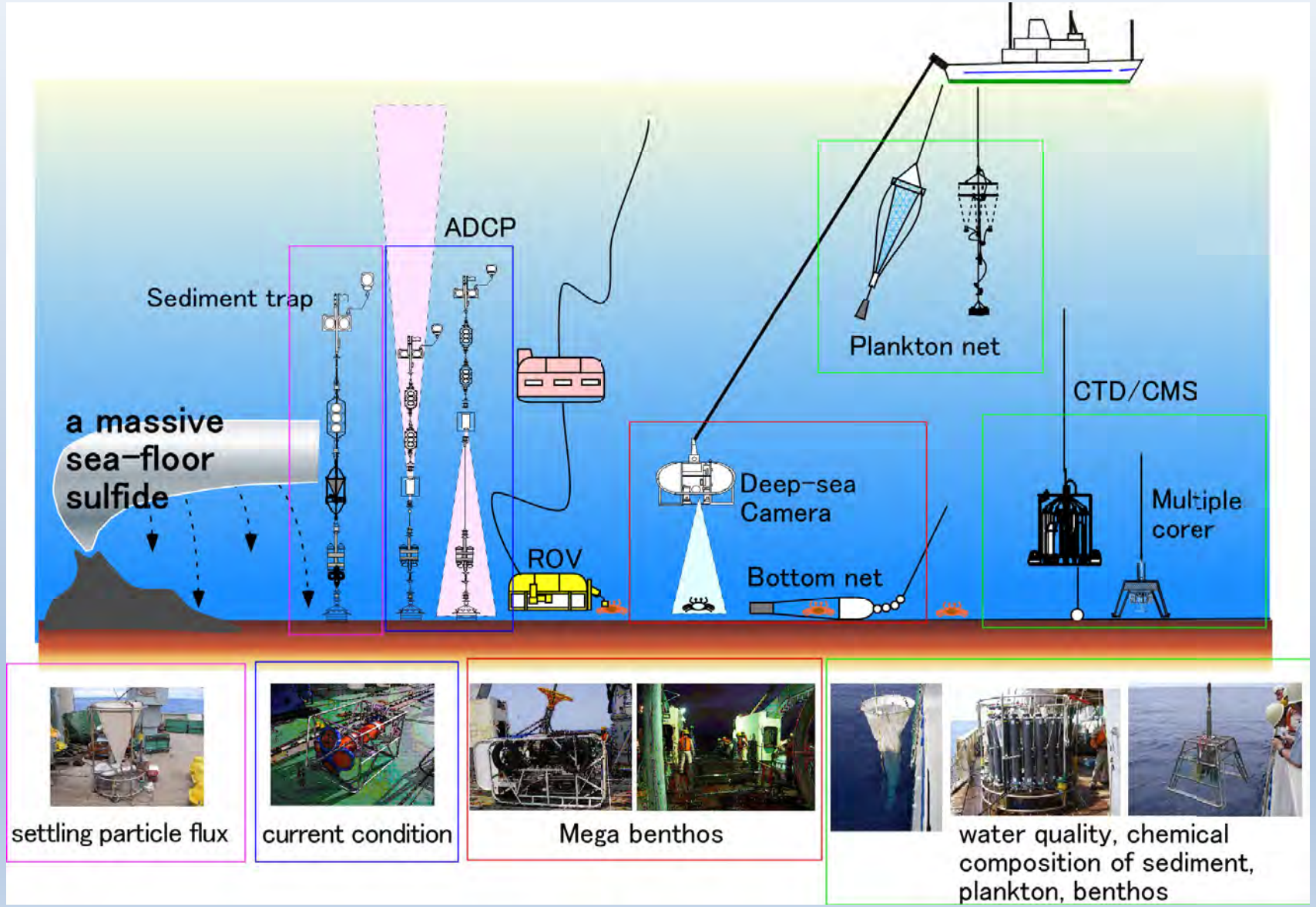
Deep-Sea Mineral Resources and Environmental Impact Assessment

Drilling operation observed by high vision TV camera mounted on the BMS

Potential impacts of SMS mining



Schematic image of baseline survey



Research vessels

Goal of Environmental Protection

- ✓ Prevent Irreversible Impact on Biodiversity and Ecosystem Service.

  - ✓ Avoid extinction of unique species

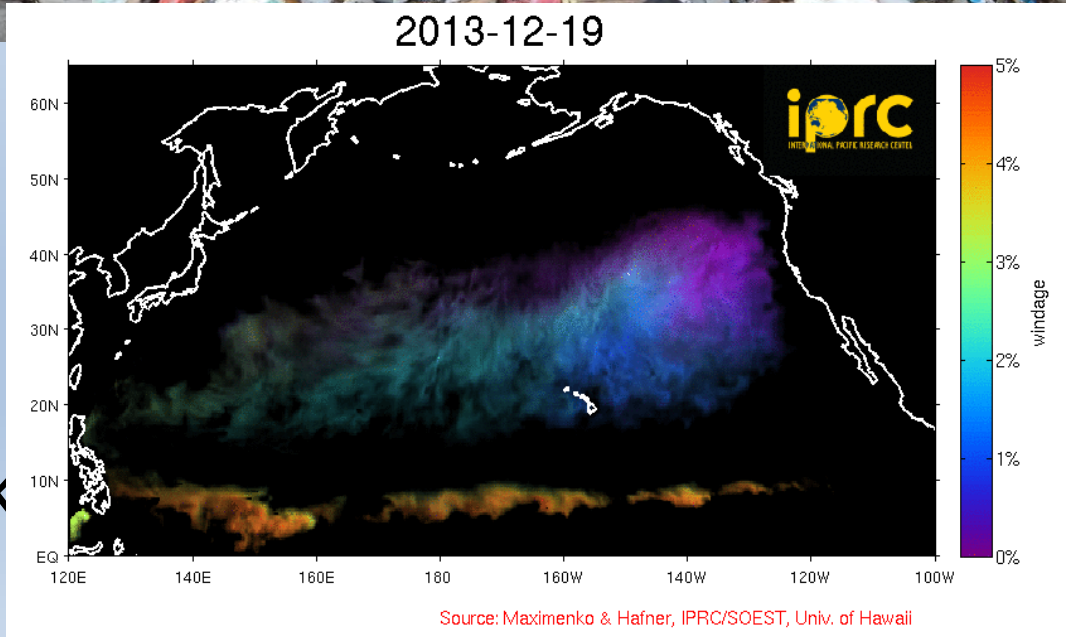
Tube Worm

Goal of Environmental Protection

- ✓ Prevent Irreversible Impact on Biodiversity and Ecosystem Service.
  - ✓ Avoid extinction of unique species
- ✓ Limit impact to small area, and avoid large scale impact

Tsunami Debris

- Nikolai Maximenk



Goal of Environmental Protection

- ✓ Prevent Irreversible Impact on Biodiversity and Ecosystem Service.
  - ✓ Avoid extinction of unique species
  - ✓ Limit impact to small area, and avoid large scale impact

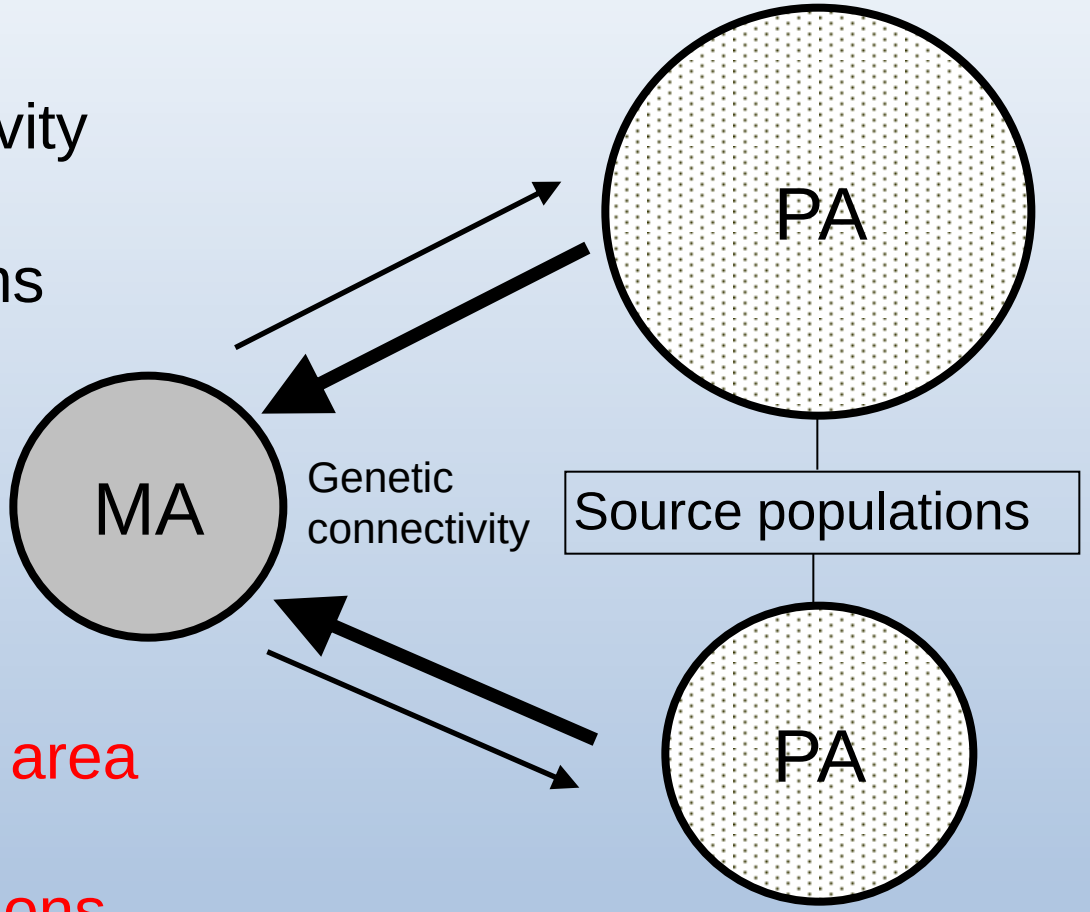
✓Plan, Do, Check, Act (PDCA) Cycle is essential for Adaptive Management.

✓ Precautious Approach is NOT a concept denying "Do" under presence of ambiguities.

✓ Best planning and Adaptive Management are required.

Strategy of biodiversity preservation

-Confirm genetic connectivity between areas
-Protect source populations

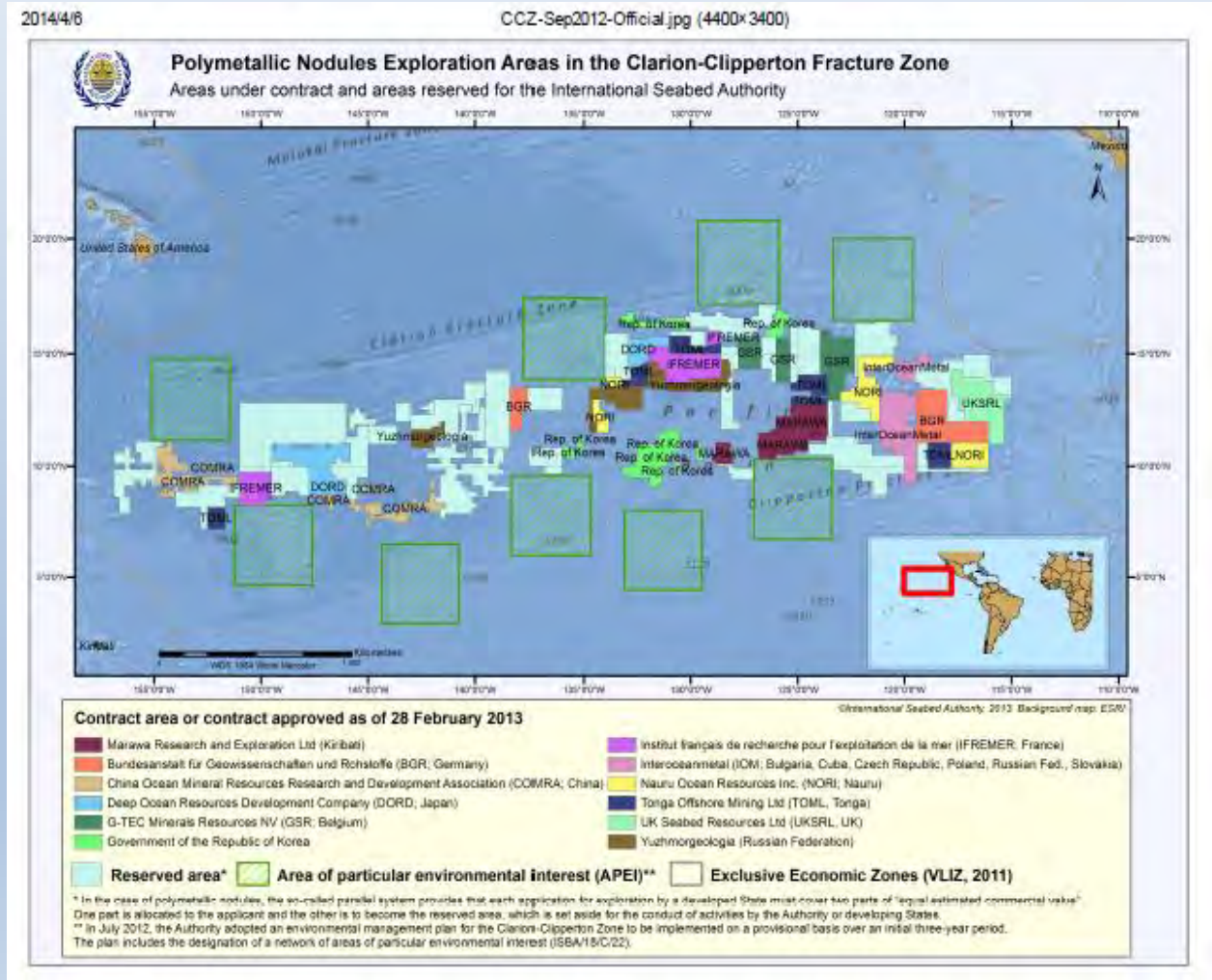


-Loss of biodiversity of the area will be minimized
-Recolonization of populations is expected in a mined area

PA: Protected area
MA: Mining area

The mt DNA sequences were analyzed to date for 15 species

International Seabed Authority is responsible for management of mining activity in high seas. It uses APEI (Area of Particular Environmental Interest) as protected area.



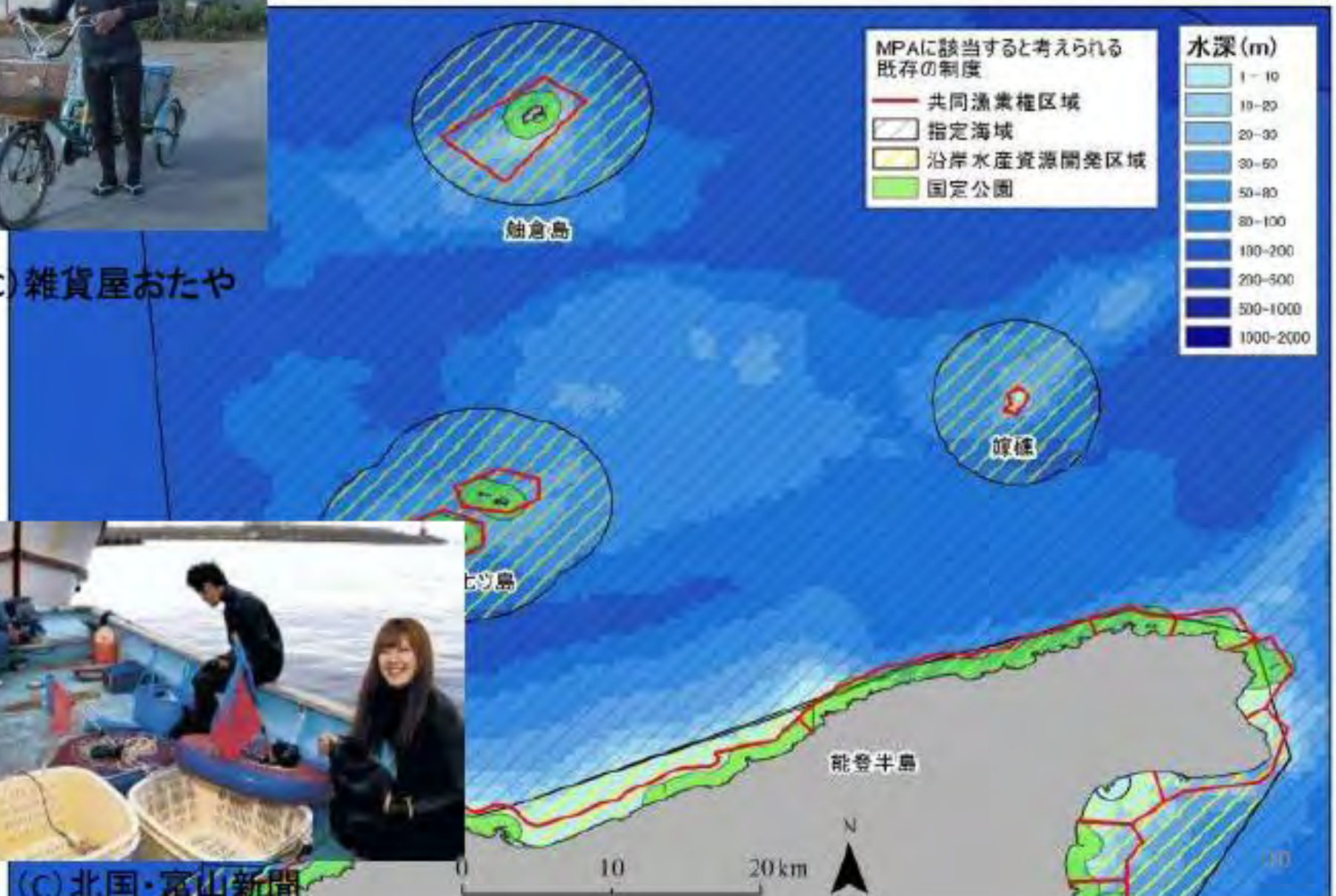
How to manage MPA?

Good lesson from Hekura Jima Island, Japan

Hekura Jima Island marine environment has been protected by Ama (dive fishing ladies) sustainably over 400 years (courtesy of Makino 2014)

(c)雑貨屋おたや

(c)北国・富山新聞



Tagging of Pacific Pelagics (TOPP)

Science magazine HELP SUBSCRIPTIONS FEEDBACK SIGN IN AAAS
SEARCH BROWSE ORDER THIS ARTICLE

Previous Article • Table of Contents • Next Article

Science, Vol 310, Issue 5745, 32-33 , 7 October 2005
[DOI: 10.1126/science.310.5745.32a]

News of the Week

ECOLOGY:

Satellite Tracking Catches Sharks on the Move

Elizabeth Pennisi

The great white shark--once considered a homebody--is proving a transoceanic traveler, according to results published in this week's issue of *Science* (p. 100). Another paper (p. 104) documents that a less fearsome cousin called the salmon shark has now shown up in Hawaii, far away from its supposed home in Alaska.

Science, Vol 310, Issue 5745, 104-106 , 7 October 2005
[DOI: 10.1126/science.1114616]

Reports

Satellite Tagging and Cardiac Physiology Reveal Niche Expansion in Salmon Sharks

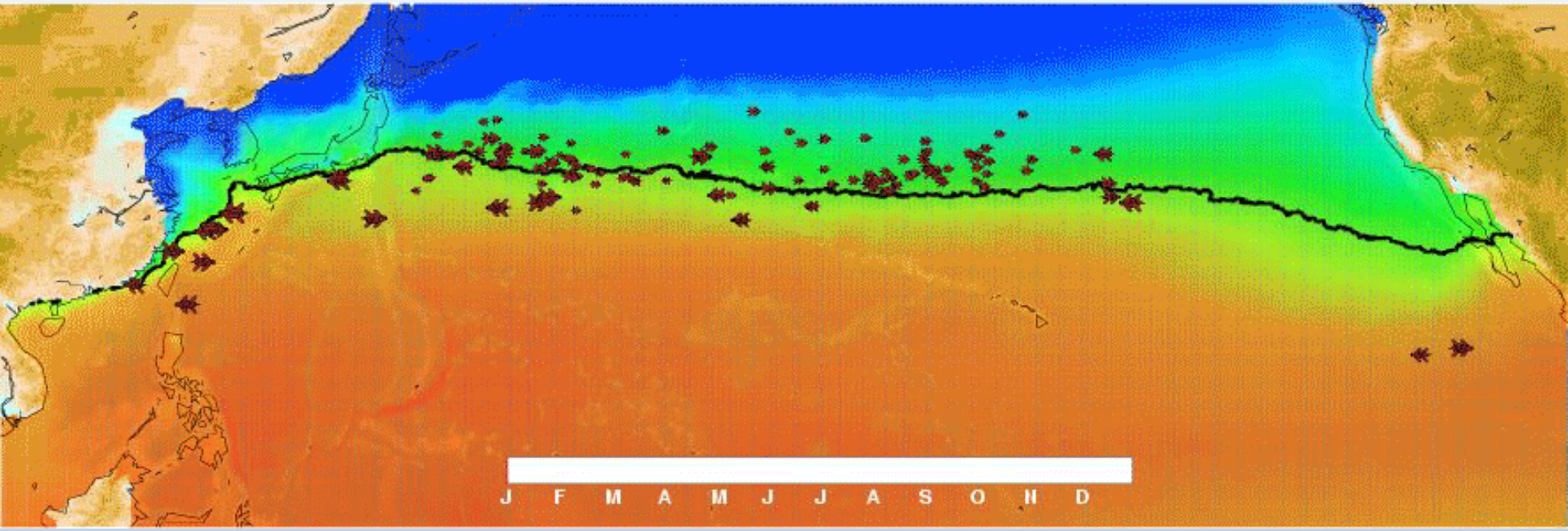
Kevin C. Weng,[1] Pedro C. Castilho,[1] Jeffery M. Morrissette,[1]
Ana M. Landeira-Fernandez,[1*] David B. Holts,[2] Robert J. Schallert,[3]
Kenneth J. Goldman,[4] Barbara A. Block[1†]

An Animal's Eye View of its Ecosystem

As a tagged salmon shark cruises along the ocean's surface its tag communicates with satellites overhead, allowing the scientists to follow its migrations on a day-by-day basis.

Photo courtesy Barbara Block

Loggerhead turtle tracks



- Loggerhead turtle tracks remapped to a single calendar year
- Climatological SST field, contour at 18.5 °C for reference

Jeffery Polovina, NOAA, CoML USNC IOOS Workshop

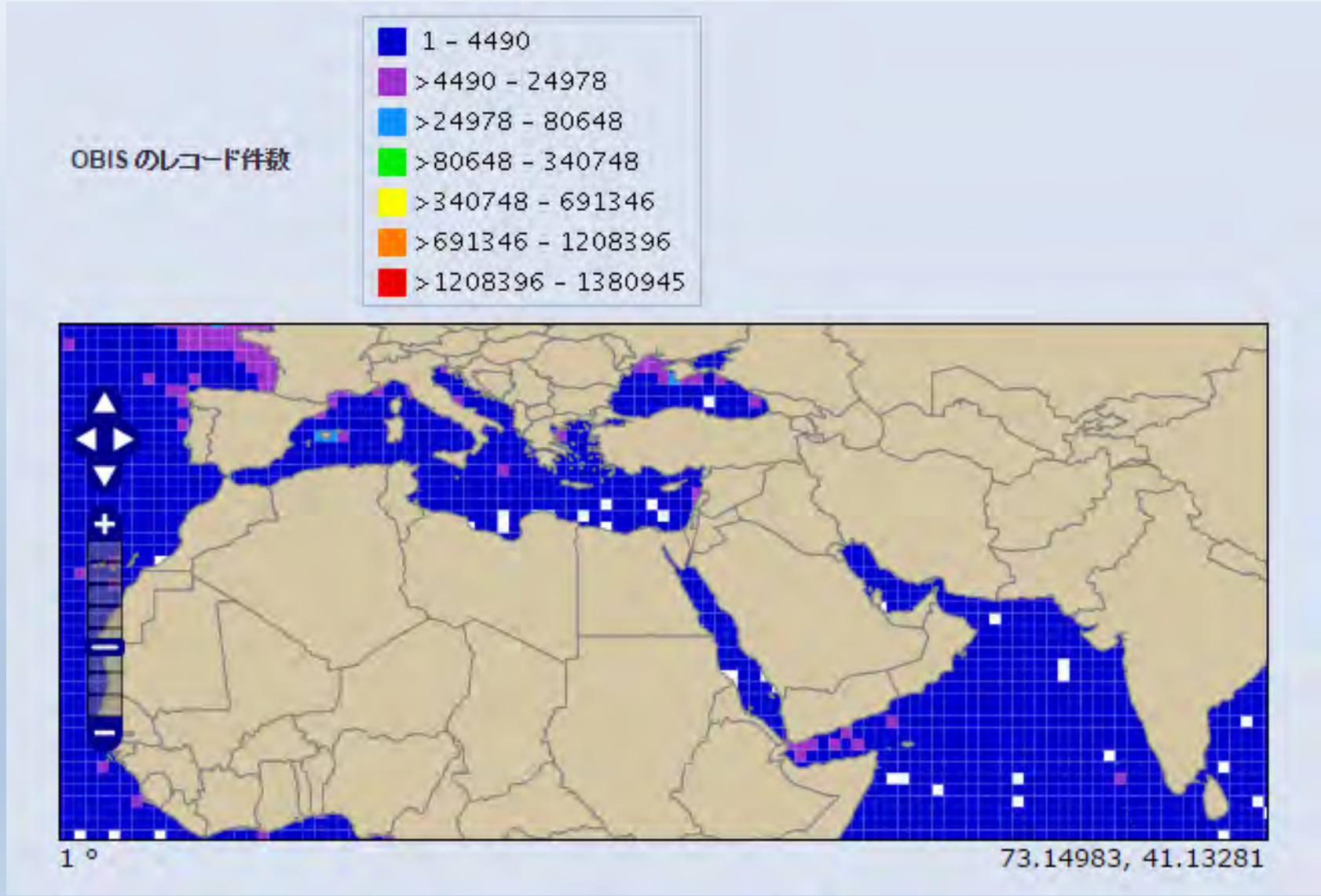
Summary

- Baseline data is essential for conservation of marine biodiversity
- Marine protected area does not mean “non-touch” area, but well managed area with sustainable use
- Supporting sustainable use by local people is key for good management of protected area
- Utilization of new technologies enhances efficient conservation

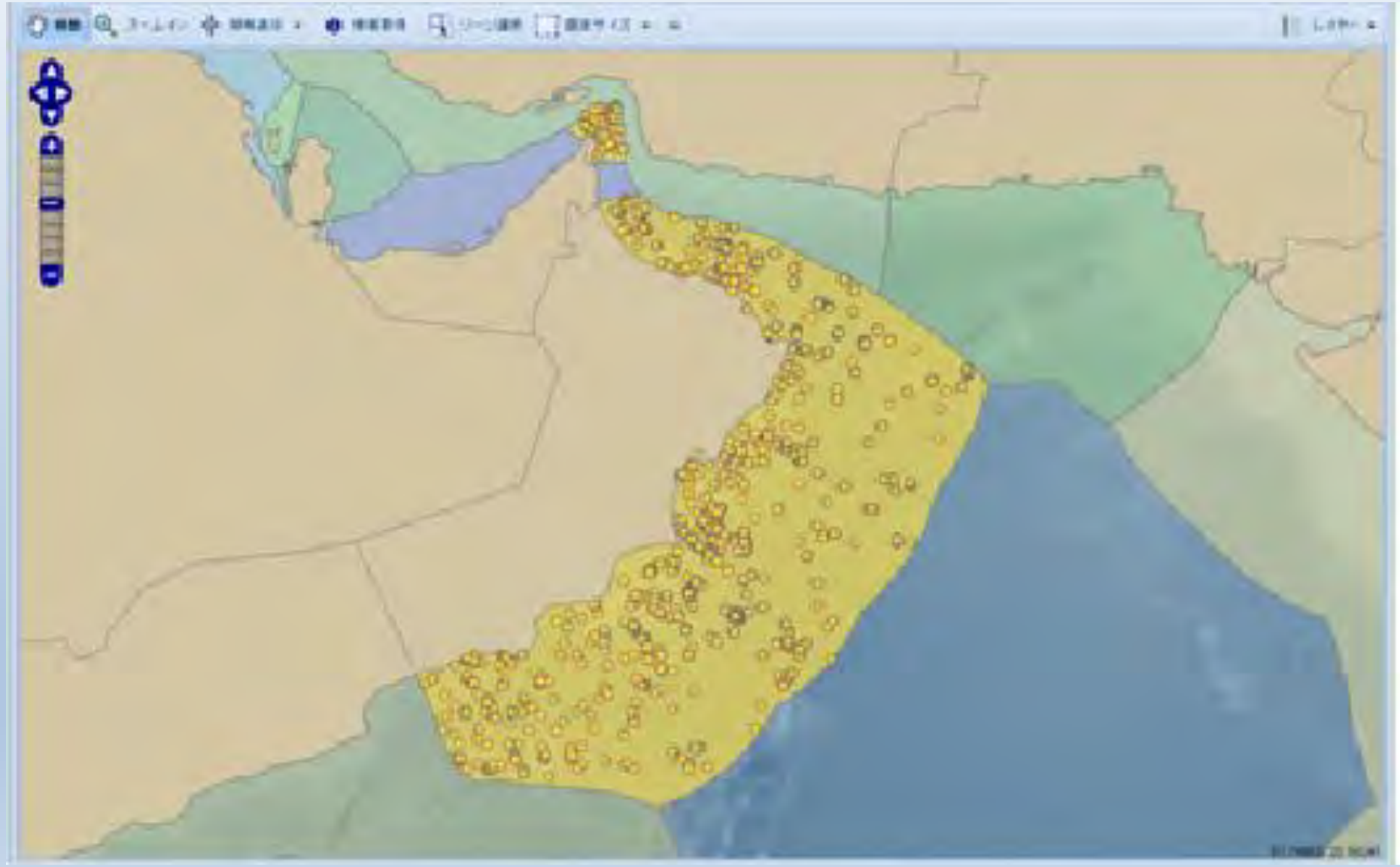
Some suggestions to Oman marine biodiversity conservation

- Baseline data of marine biodiversity are not enough
- Utilization of remote sensing e.g. Helicopter, Satellite will enhance collection of data
- Database is essential to handle marine biodiversity data
- Identify hotspots, and threats on them, e.g. pollution.
- Enhence PDCA cycle circulation

Number of data in OBIS



Distribution of data in OBIS



Data points of green turtle in Oman EEZ

Marine Protected Area in the world

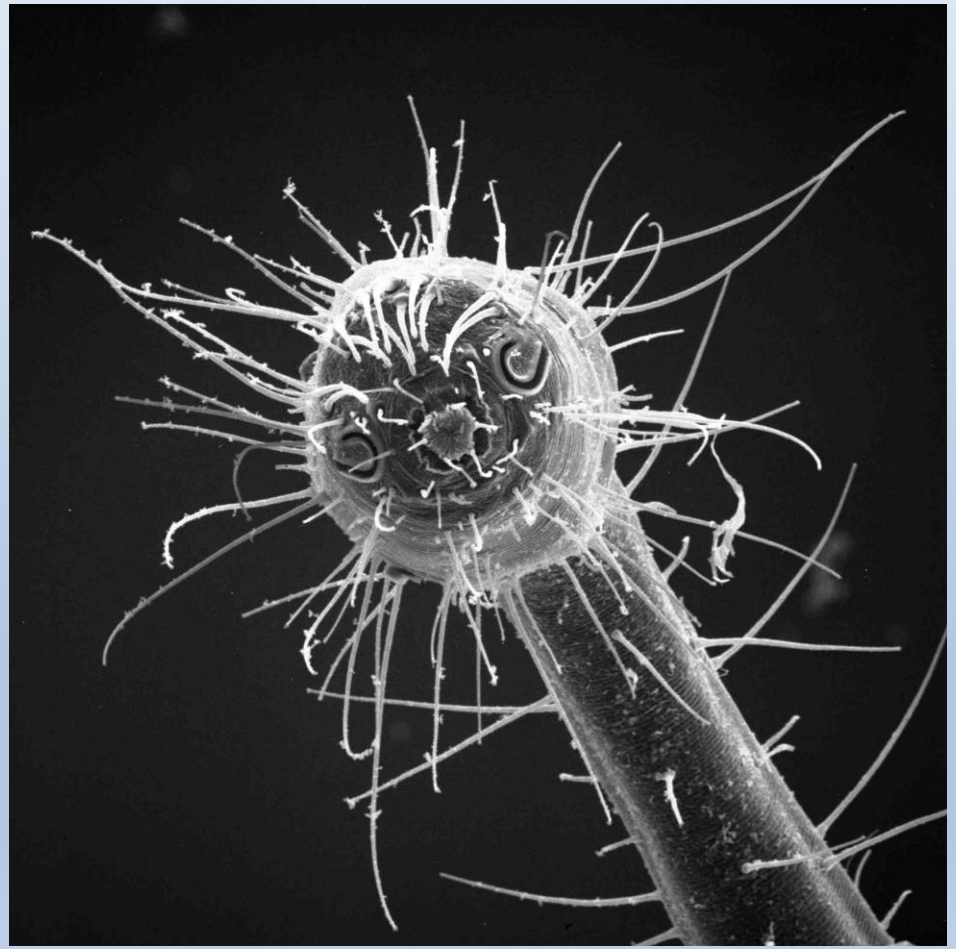
After Woods 2007

Steps for marine biodiversity conservation

- 1: collection of baseline data for coastal zones
- 2: Analyze data and extract EBSAs
- 3: Registration of selected EBSAs to MPA

- 1: Capacity building of marine scientists for off-shore observation
- 2: Survey of off-shore marine biodiversity within EEZ of Oman

Thank you for your attention



JICA Oman Collaboration Project for conservation of marine biodiversity and ecosystem service (Provisional Draft v.20141017)

- Goal of vision2040: Final goal of this project is that Oman will accomplish Aichi Target 11 of Convention on Biological Diversity (CBD) i.e. at least 10% of Oman water will be designated as Marine Protected Area (MPA) and MPAs are managed in a sustainable way. The goal of the department of Marine Enviroment Conservation is to archive information necessary to accomlish above goal.（MPA設定は他の部局の担当⇒Dept.of Protected Area)
- Mile stones of vision2040 until 2020 = Goal of JICA Oman collaboration Project
- For accomplishing this goal, this project will select more than 10% of Oman coastal territorial water plus EEZ as Ecologically or Biologically Significant Area (EBSA).
- For open water, human resource and infrastructure will be constructed to survey Oman open water.
- Collaboration also contributes establishing mechanism to conserve the MPA in a sustainable manner.

Timetable to 2040

Goals	Till 2020	Till 2030	Till 2040
More than 10% of coastal Oman water is selected as EBSA			
10% of coastal Oman water is designated as MPA			
Human resource and infrastructure will be ready to survey Oman open water			
More than 10% of Omani open water is selected as EBSA			
10% of Omani open water is designated as MPA			
10% of both coastal and open water Oman water is managed in a sustainable way as MPA			

Final goal of Vision 2040

Milestones and activities need to be done by2020

- More than 10% of coastal zone of Oman will be selected as EBSA
  - For this purpose, information of 7 criteria of EBSA from coastal zone will be collected
  - Any data necessary for further analyses, e.g. bottom topography, water quality etc., also will be collected.
  - Data will be analyzed using information technology
  - EBSA area will be mapped
- Human resource and infrastructure will be ready to survey Oman open water as well as to monitor coastal water
  - Collaboration scheme with other ministry to use research vessels
  - Educate specialist of satellite image analysis, aerial photo analysis, GIS data analysis,
  - Educate specialist of taxonomy and ecology of marine organisms and ecosystem (university)
  - More education and infrastructure for sustainable use of MPA e.g. ecotourism

Milestones and activities need to be done by2030

- 10% of coastal Oman water is designated as MPA
  - Evaluate suitability of each EBSA as MPA from socio economic points of view
  - Design networks of EBSAs

- More than 10% of off shore area of Oman will be selected as EBSA
  - For this purpose, information of 7 criteria of EBSA from off shore of Oman EEZ will be collected
  - Any data necessary for further analyses, e.g. bottom topography, water quality etc., also will be collected.
  - Data will be analyzed using information technology
  - EBSA area will be mapped

- Capacity building of Human Resource (as well as infrastructure) continues

Milestones and activities need to be done by2040

- 10% of Omani open water is designated as MPA
  - Evaluate suitability of each EBSA as MPA from socio economic points of view
  - Design networks of EBSAs

- 10% of both coastal and open water Oman water is managed in a sustainable way as MPA
  - Constructing infrastructures necessary for ecotourism
  - Capacity building of human resources necessary for public education
  - Capacity building for monitoring of biodiversity in each MPA

Example of Information useful for selecting coastal zone EBSA

- Uniqueness or rarity: Information necessary to identify the area where is unique or rare in Oman water (e.g. there are only a few major areas where coral reef is developing)
- Special importance for life history stages: information necessary to identify the area where is specially important for life history of certain species (e.g. nesting area of green turtle)
- Importance for threatened, endangered or declining species and/or habitats: information necessary to identify the area where is important for endangered species (e.g. feeding ground of green turtle)
- Vulnerability, fragility, sensitivity or slow recovery: information necessary to identify the area where is vulnerable (e.g. coral reef)
- Biological productivity: information necessary to identify the area where is high in productivity (e.g. upwelling area)
- Biological diversity: information necessary to identify the area where is high in index of biological diversity
- Naturalness: information necessary to identify the area where is under little human impact

Implementation 1: Data collection

- Collect information where data are available through interviews from local specialists by Oman participants (Omani)
- Make metadatabase by JICA specialists
- Collect data from existing database (digital data) by Omani
- Make digital data from existing data on paper by Omani through contract with company

Implementation 2:Field survey

- Collect data through field survey where data are not available by JICA specialists and Omani
- Train Omani how to collect data through field survey

Implementation 3: Remote sensing

- Field survey to make map of habitat in the coasts of Oman
- Collaboration with Oman self defensing force for operation of helicopter
- Train Omani for satellite image analysis

Implementation 4: Collaboration within Oman

- Collaboration with Oman Navy for data sharing
- Collaboration with University for education of human resource

Implementation 5: Data analysis

- Marxan software
- Train Omani how to use application
- Select important grids using each data set prepared for analyses
- Sum all criteria, or select uniquely high in one criteria will be selected.
- Select appropriate grids, connect nearby grids
- Elucidate continuous high score area
- Map of coastal EBSA created no later than 2020.

Open water EBSA selection

- Implementation plan is basically same to coastal zone
- Human resource and infrastructure preparing should be done first
- Field survey using research vessel in collaboration with Oman navy and/or Oman Ministry of Foreign Affairs would be necessary
- Parameters reflecting 7 EBSA Criteria may be different
- Surface and sea floor needs to be separated

Information useful to select EBSA from open ocean surface area

- Uniqueness or rarity: Information necessary to identify the area where is unique or rare in Oman water (difficult)
- Special importance for life history stages: information necessary to identify the area where is specially important for life history of certain species (e.g. feeding area of birds nesting on islands; spawning area of fish species)
- Importance for threatened, endangered or declining species and/or habitats: information necessary to identify the area where is important for endangered species (e.g. The area whales and dolphins are using)
- Vulnerability, fragility, sensitivity or slow recovery: information necessary to identify the area where is vulnerable (e.g. difficult)
- Biological productivity: information necessary to identify the area where is high in productivity (e.g. upwelling area)
- Biological diversity: information necessary to identify the area where is high in index of biological diversity (Challenging/ if plankton and/or fish surveyed extensively maybe possible)
- Naturalness: information necessary to identify the area where is under little human impact (Most Omani area are high in naturalness; Area outside fishing area maybe suitable)

Information useful to select EBSA from open ocean bottom area

- Uniqueness or rarity: Information necessary to identify the area where is unique or rare in Oman water (Characteristic topography e.g. seamounts)
- Special importance for life history stages: information necessary to identify the area where is specially important for life history of certain species (spawning area of benthic fish species e.g. flat fish)
- Importance for threatened, endangered or declining species and/or habitats: information necessary to identify the area where is important for endangered species (e.g. deep-sea shark)
- Vulnerability, fragility, sensitivity or slow recovery: information necessary to identify the area where is vulnerable (e.g. deep-sea coral reef)
- Biological productivity: information necessary to identify the area where is high in productivity (e.g. hydrothermal vent)
- Biological diversity: information necessary to identify the area where is high in index of biological diversity (Challenging/ if benthic fauna is surveyed extensively maybe possible)
- Naturalness: information necessary to identify the area where is under little human impact (Most Omani area are high in naturalness; Area outside fishing area maybe suitable)

Implementation 0 (target of this collaboration)

- Capacity building of human resource
  - Train young Omani in Japan (JICA)
  - Participating on survey cruise in Japan (JICA?)
  - Satellite image analysis
  - Taxonomy and ecology of marine organisms
  - Bottom survey technique
- Field survey using research vessel in collaboration with Oman navy and/or Oman Ministry of Foreign Affairs would be necessary
  - Pilot survey with Japanese specialist if possible
- Construction of infrastructure
  - Additional facility necessary for biological survey (e.g. deep-sea use chemical sensors, ROV?)
- Collecting of basic information (e.g. bottom topography)

Implementation 1: Data collection

- Collect information where data are available through interviews from local specialists
- Make metadatabase
- Collect data from existing database (digital data)
- Make digital data from existing data on paper through contract with company

Implementation 2:Field survey

- Collect data through field survey where data are not available
- Field survey should be targeted to limited area due to limitation of ship time
- Selection of survey site will be determined based on existing topography, satellite data etc.

Implementation 3: Remote sensing

- Satellite image analysis by Omani who was trained in Japan

Implementation 4: Collaboration within Oman

- Collaboration with Oman Navy for data sharing
- Collaboration with University

Implementation 5: Data analysis

- Use Marxan software
- Select important grids using each data set prepared for analyses
- Sum all criteria, or select uniquely high in one criteria will be selected.
- Select appropriate grids, connect nearby grids
- Elucidate continuous high score area
- Map of open water EBSA created no later than 2030 to 2035.

EBSA to MPA

- Mechanism to set MPA from EBSA need to be set
- Collaboration of various sectors and stakeholders
- Sectors includes ministries other than Ministry of Environment, Department of Marine Environment
- Concept of ecotourism will help setting MPA from EBSA
- Mechanism for sustainable usage management of MPA needs to be implemented

Challenging

- Ministry (Inter-Ministries) collaboration is not easy
- Shortage of human power
- IUCN30 MPA proposal will be useful but only a few were implimented

- Need to be added
  - Marine pollution(Ballast water, Oil Spill, Water quality, EIA)
  - Ecosystem service

- [Coastal operation]

Fact Findings
&
Proposed Activities

Satoko Hara
Expert of Environmentally Friendly Tourism
JICA Research Team

Agenda

1. Objectives of Ecotourism in the Strategy
2. Ministry Roles toward Ecotourism
3. Recognized Issues through Site Visits
4. Proposed Activities under International / Local Ecotourism Strategy

1. Objectives of Ecotourism in the Strategy

I. To maximize social and economic benefits from marine environment

II. To minimize negative impacts on marine environment caused by social and economic activities

Wise Use of Natural Assets

2. Ministry Roles toward Ecotourism

I. Develop guidelines and regulations to utilize marine environment as ecotourism assets to avoid negative impacts in MPAs

II. Develop institutional framework for continuous development in MPAs

III. Monitoring of ecotourism activities

3. Recognized Issues

I. Limited Collaboration

ex. Ministry of Tourism

II. Limited Community Involvement

ex. Rather focusing on employment

I. Collaboration

Al Jabal Al Akhdhar Sanctuary for Natural Sceneries

This rises to a height of 2,980 metres and is famous for its wide plateau close to the summit. The journey from Muscat to Al Jabal Al Akhdar takes about two hours and can only be undertaken by four-...

Read more

As Saleel Nature Park

The Park is located in wilayat AL Kamil W'al Wafi in Al Sharqiyah South Governorate, and lies 57 kilometres from wilayat of Sur. It extends over an area of 220 square kilometres, and is predominantly...

Read more

Al-Dimaniyat Islands Nature Reserve

Al-Dimaniyat Islands Nature Reserve is located in Wilayat AlSeeb in the Muscat Governorate and Wilayat Barka in Al Batinah South Governorate , and lies about 18 kilometres off the coast of Barka (70 k...

Read more

Dhofar Lagoons

Lagoons abound in Dhofar Governorate, and vary in size from a few hectares to more than one hundred hectares. Some of these lagoons have been established as nature reserves. There are eight reserves, ...

Read more

Jebel Samhan

Jebel Samhan ist eine der bedeutendsten Gebirgsketten im Verwaltungsbezirk Dhofar, deren höchster Gipfel 2.100 Meter erreicht. Jebel Samhan besitzt zahlreiche Ebenen, die von engen und tiefen Bergp...

Read more

II. Community Involvement

II. Community Involvement (Japan)

4. International / Local Ecotourism Strategy

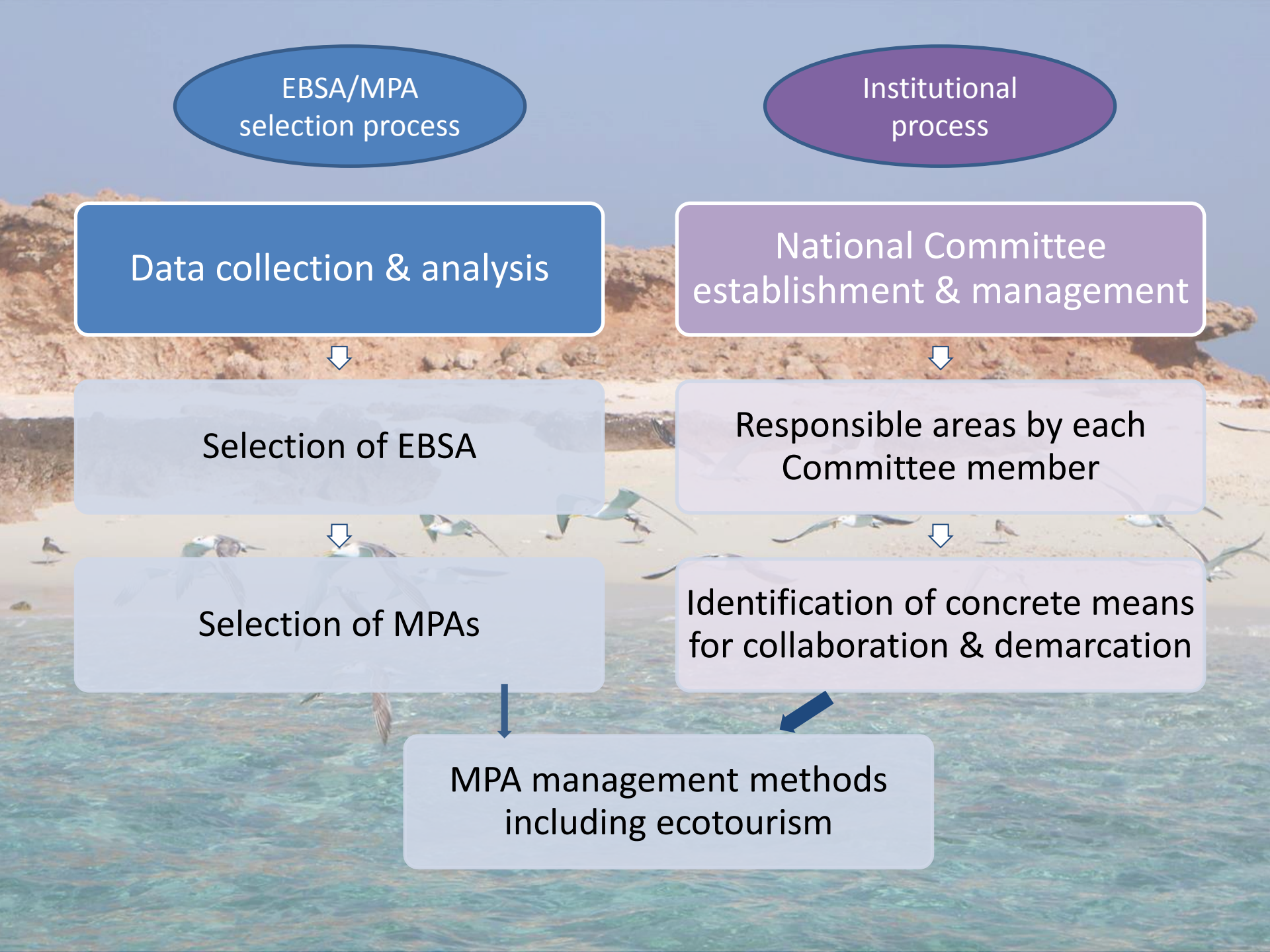
- Proposed Activities:
  - Designated of Priority Development Areas for Ecotourism in MPAs
  - Comprehensive Tourism Development Framework in Designated Priority Areas

4. International / Local Ecotourism Strategy Proposed Activity 1:

- Designation of Priority Development Areas for ecotourism in MPAs
  - Suggested Major Outputs for Activity 1:
    - Criteria for defining Priority Development Areas for ecotourism
    - Mapping of natural assets and infrastructure by GIS
    - Development of regulations and guidelines related to ecotourism development
    - Evaluation report about candidate priority areas

4. International / Local Ecotourism Strategy Proposed Activity 2:

- Comprehensive Tourism Development Framework in Designated Priority Areas
  - Suggested Major Outputs for Activity 2:
    - Implement pilot project/s to strengthen collaboration
    - Development of institutional framework to manage the Designated Priority Areas and to encourage local community's active involvement
    - Define necessary intervention and arrangement for tourism development in the Designated Priority Areas
    - Monitoring and evaluation measures


EBSA/MPA selection process
Institutional process
Data collection & analysis
National Committee establishment & management
Selection of EBSA
Responsible areas by each Committee member
Selection of MPAs
Identification of concrete means for collaboration & demarcation
MPA management methods including ecotourism


شكرا جزيلا ك
Thank you very much!
ありがとうございます!

Findings and Recommendations

October 30, 2014

Satoko Hara
Tourism Marketing Expert
JICA Research Team on Technical Cooperation for GCC Countries

Agenda

1. Recommendations
    - Potentials of Japanese Market
    - Recognized Challenges
    - Recommendations

2. Proposal for Further Cooperation

Agreed TOR

- Objective:

  To develop an overall plan to attract more Japanese tourists to Oman

- Expected Outcome in this mission:

  To recommend general directions and steps to develop a detailed marketing strategy

Conducted Meetings

Date	Place	Organization / Department
Oct 19	MOT / Muscat	・DG of Tourism Promotion ・Deputy DG of Tourism and Internal Events ・Deputy DG of International Promotion
Oct 20	MOT / Muscat	・DG of Planning, Follow up & Information ・DG of Investors Services & Quality Management ・DG of Tourism Development ・OMRAN
Oct 21	MOT / Muscat	・DMCs (Zahara Tours, Mark Tours, and Bahwan Tours) ・Oman Sail
Oct 23	Nizwa	・Head of Regional Administration of Tourism in Al Dakhila
Oct 26	Salalah	・DG of Tourism in Dhofar
Oct 29	Muscat	・Public Authority for SMEs Development

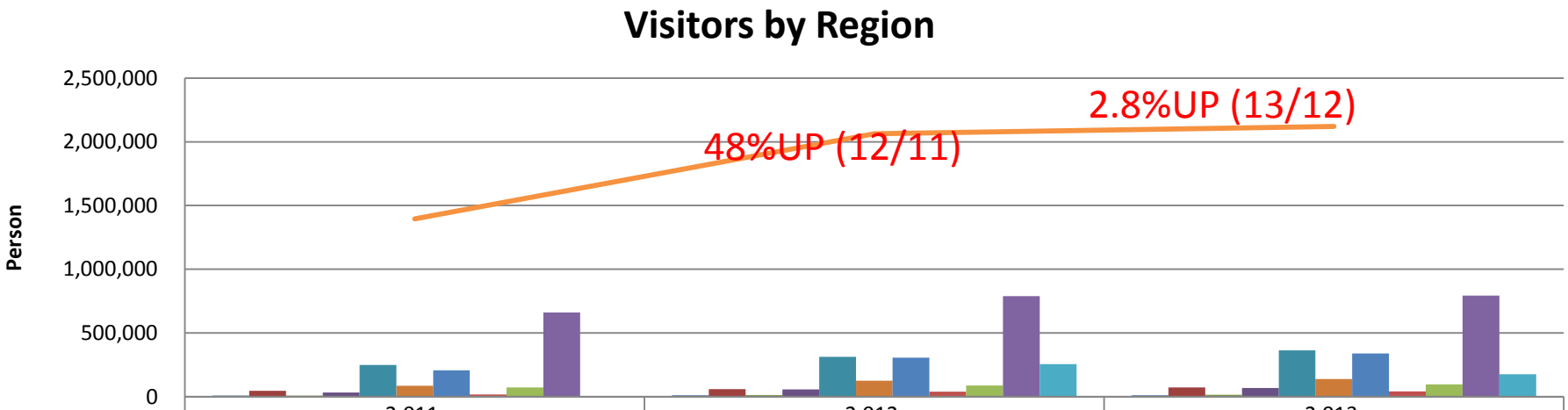
Site visits

Date	Region	Sites
Oct 22	A' Dakhiliyah	▪ Nakhal Fort, Balad Sayt Village ▪ Wadi Bani Awf, Jabal ▪ Misfa and Al Hamra Overnight at The View
Oct 23	A' Dakhiliyah	▪ Bahla Fort, Cray Pottery Factory ▪ Nizwa Fort Overnight at Golden Tulip Nizwa
Oct 24	A' Dakhiliyah Sharqiya	▪ Nizwa Market ▪ Wahiba Desert and Dune Bashing Overnight at Arabian Oryx Camp
Oct 25	Sharqiya Muscat	▪ Bedwin Lady's House ▪ Wadi Bani Khalid ▪ Sur (Dhow factory) Overnight at Muscat
Oct 26	Salalah	▪ Mirbat, Dhofar Mountains, Taqah Overnight at Rotana Hotel
Oct 25	Salalah	▪ Frankincense Park, Al Habi Ayub Tomb, Blue Hole, Ali Balid Archaeological Park and Frankincense museum

Potentials of Japanese Market

- Current Japanese Arrivals to Oman are 0.26%.
- Japanese departure marked over 18 million in 2012.
- There are potentials of Japanese residents in GCC and Europe.
- Over 60s are leading Japanese travel market.
- Turkey and Egypt are popular in the region.

International Visitors to Oman



	2,011	2,012	2,013
Africa	9,947	11,959	12,301
Americas	46,880	60,167	72,007
Australia	8,213	14,058	15,616
East Asia	34,153	56,689	68,263
Europe	249,680	314,195	363,166
Middle East	86,032	124,860	139,715
South Asia	207,886	306,643	339,032
Others	17,606	40,401	42,223
Omanis	72,258	88,803	97,863
Others GCC	662,196	789,461	793,466
Cruise Ship		256,721	177,577
Total	1,394,851	2,063,957	2,121,229

Source: MOT

International Visitors to Oman – cont.

Ratio of Arrivals by Regions

	2012	2013	Ratio
Africa	11,959	12,301	2.9%
Americas	60,167	72,007	19.7%
Australia	14,058	15,616	11.1%
East Asia	56,689	68,263	20.4%
Europe	314,195	363,166	15.6%
Middle East	124,860	139,715	11.9%
South Asia	306,643	339,032	10.6%
Others	40,401	42,223	4.5%
Omanis	88,803	97,863	10.2%
Others GCC	789,461	793,466	0.5%
Cruise Ship	256,721	177,577	-30.8%
Total	2,063,957	2,121,229	2.8%

Source: MOT

Japanese Arrivals

	2011	2012	2013
Japanese	3,954	6,398	5,508
Total	1,394,851	2,063,956	2,121,229
Ratio (%)	0.28	0.31	0.26

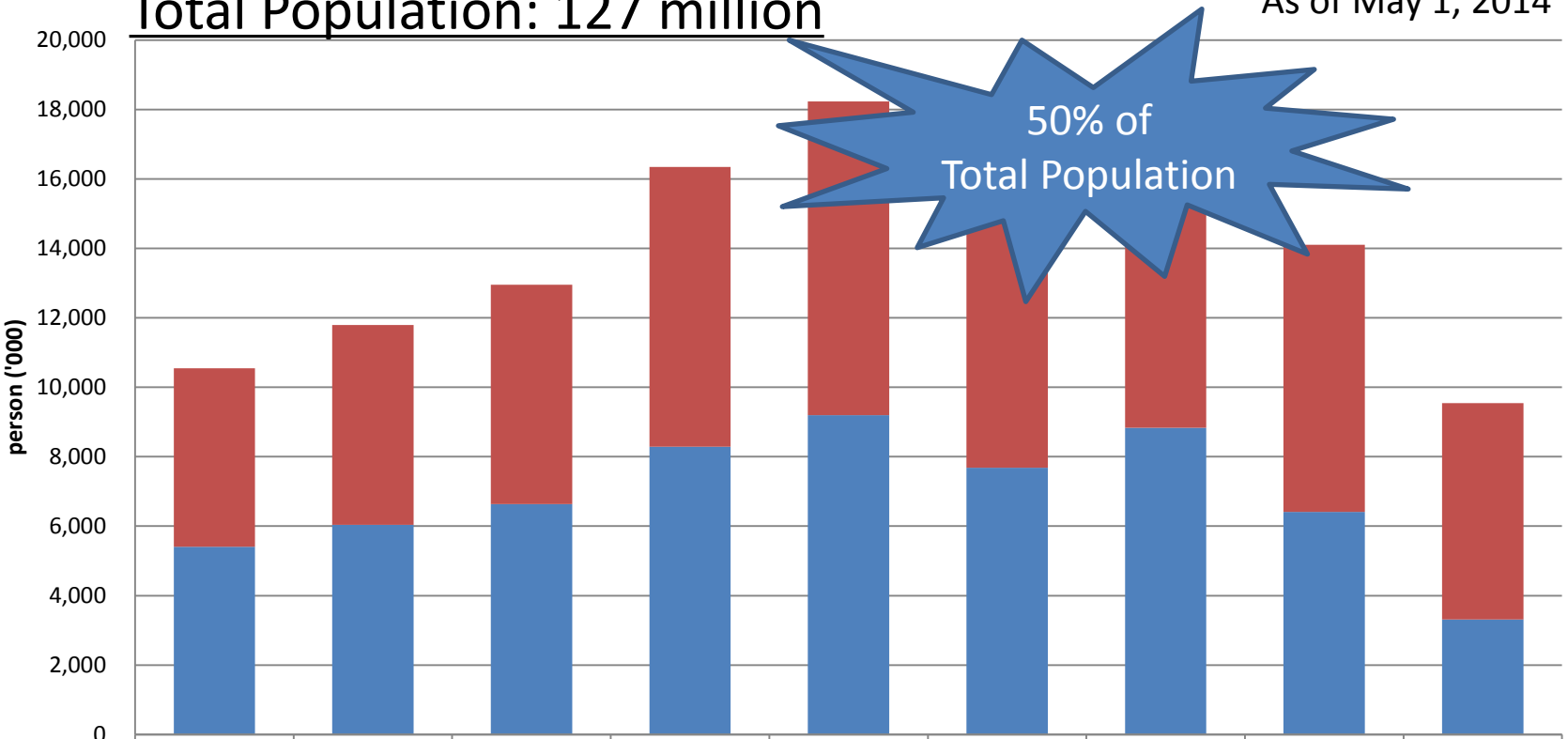
Source: MOT

**Comparing 2012 with 2013, Japanese tourist arrivals were 13.9%

Japanese Demographics

Total Population: 127 million

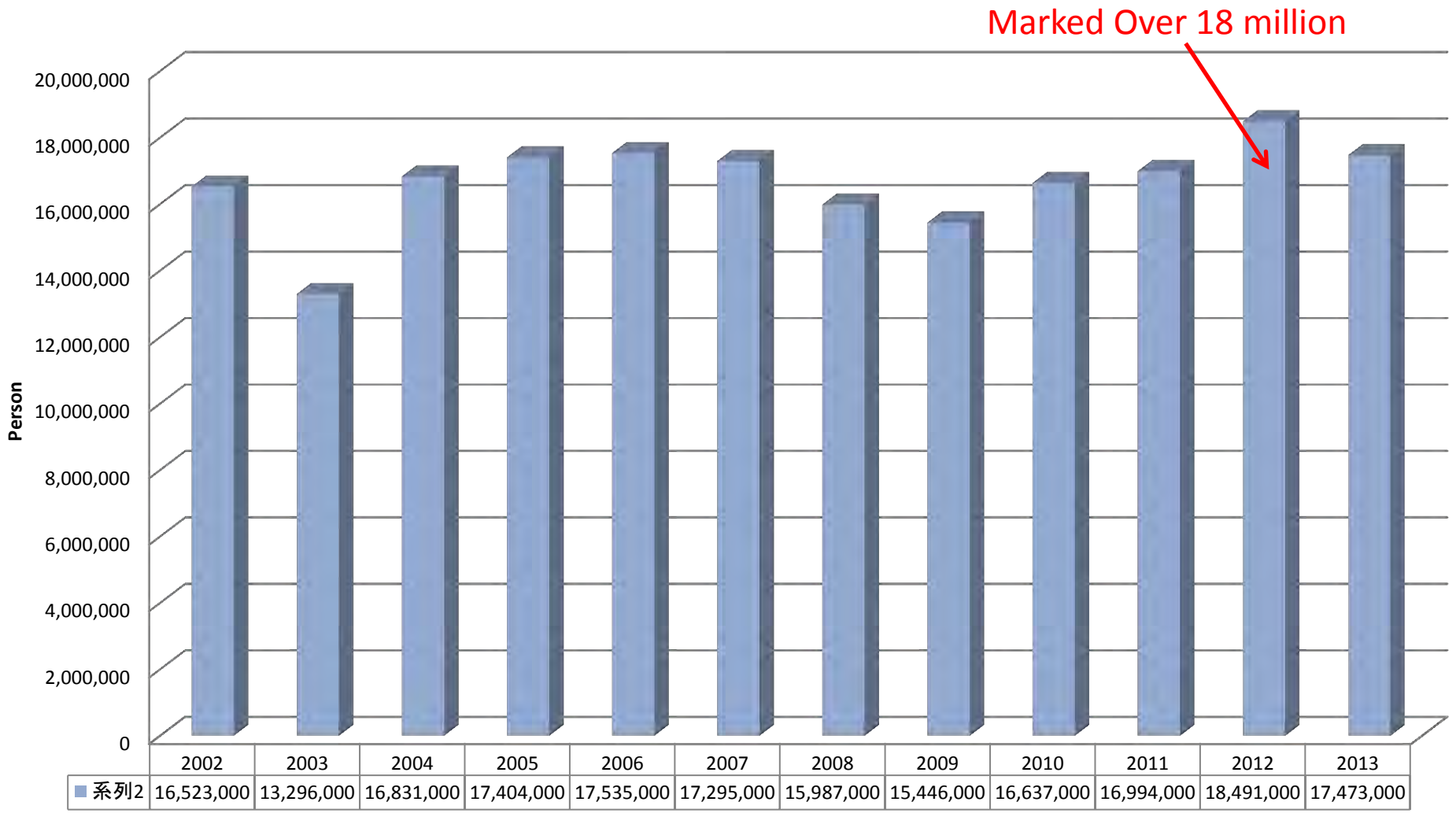
As of May 1, 2014



	0～9	10～19	20～29	30～39	40～49	50～59	60～69	70～79	over 80
Female	5,146	5,752	6,318	8,060	9,036	7,723	9,337	7,690	6,234
Male	5,403	6,042	6,633	8,288	9,197	7,681	8,836	6,410	3,313
Total	10,549	11,794	12,951	16,348	18,233	15,404	18,173	14,100	9,547

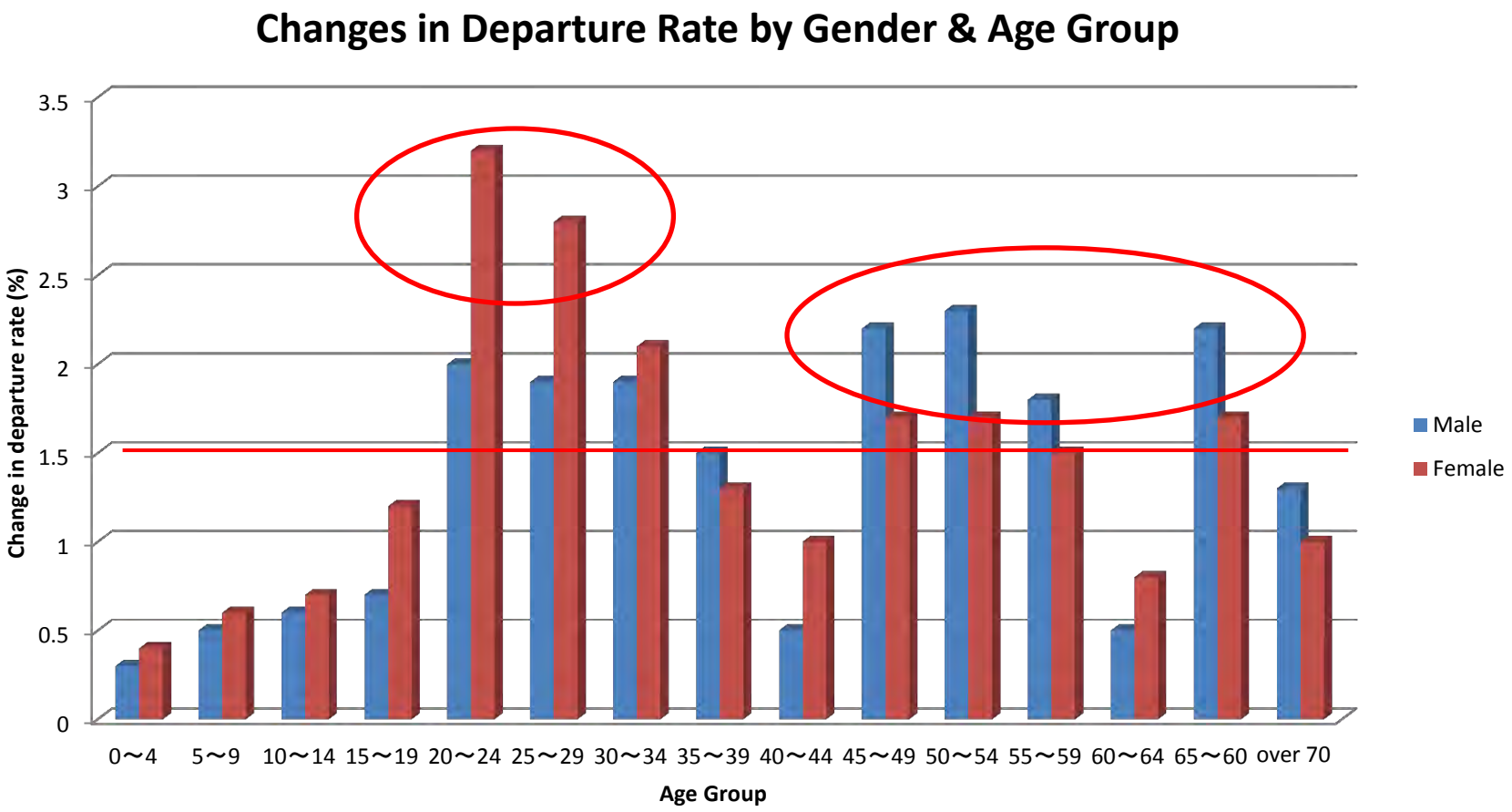
Source: Statistics Bureau

Japanese Departures



Source: Market Insight 2013 / Ministry of Justice

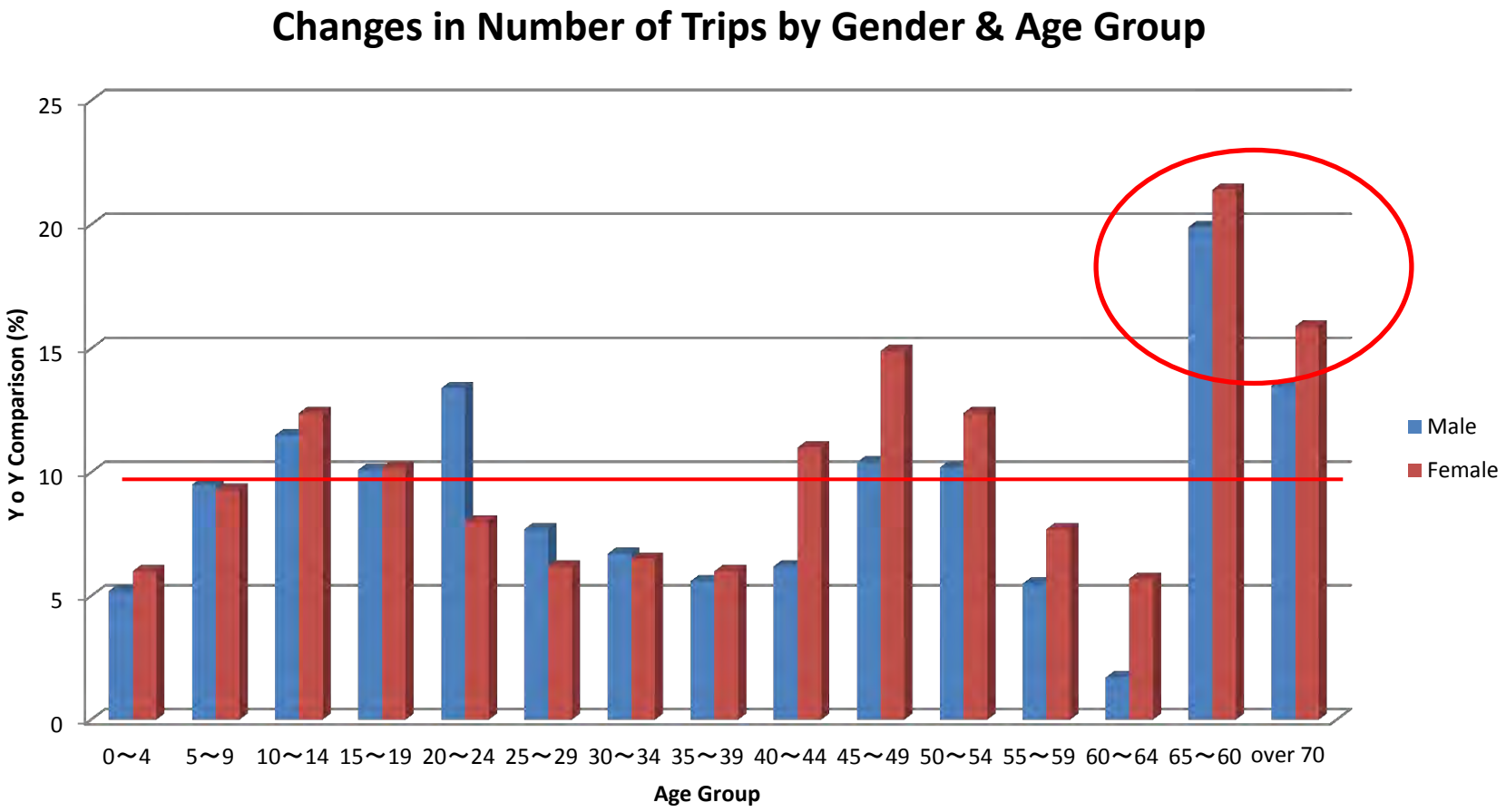
Changes in Departure Rate (2012/2011)



(All the trips both in holiday and in business included)

Source: Market Insight 2013

Changes in Number of Trips (2012 / 2011)



(All the trips both in holiday and in business included)

Other Indicators
Market by Destination (Holiday Travel)

Ratio for Number of Tourists per destination

	2000	2002	2004	2006	2008	2010	2011	2012
Europe	18.9%	20.3%	19.5%	19.9%	17.9%	18.0%	18.4%	19.1%
Northeast Asia	19.8%	23.6%	24.4%	27.8%	31.5%	32.8%	33.5%	30.5%
Southeast Asia	15.6%	16.7%	15.0%	15.0%	16.4%	14.7%	16.0%	17.2%
North America	12.3%	8.2%	8.4%	7.7%	7.1%	7.7%	6.6%	7.2%
Oceania	4.3%	5.2%	5.1%	4.2%	3.2%	3.0%	2.4%	2.4%
Hawaii	13.3%	12.0%	11.9%	10.0%	9.4%	9.3%	9.7%	10.5%
Guam / Saipan	11.1%	9.5%	10.9%	9.4%	9.0%	8.7%	7.9%	8.3%
Others (including Oman)	4.7%	4.5%	4.8%	6.1%	5.5%	5.8%	5.4%	4.9%
Short Haul*	46.5%	49.8%	50.3%	52.2%	56.8%	56.2%	57.5%	56.0%
Long Haul	53.5%	50.2%	49.7%	47.8%	43.2%	43.8%	42.5%	44.0%

*Short Haul refers to Northeast Asia and Southeast Asia, Guam and Saipan. While long haul refers to other destination.

Source: Market Insight 2013

Other Indicators
Travel Expenditure (Holiday Travel)

Travel Expenditure by gender & age group (2010-2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Less than JPY 100,000**	23.7%	21.4%	25.7%	21.8%	20.8%	30.6%	19.8%	22.2%	28.0%	17.1%
JPY 100,000 to JPY 199,999	34.2%	33.6%	34.0%	33.6%	28.3%	34.9%	34.6%	35.4%	32.1%	27.3%
JPY 200,000 to JPY 399,999	29.9%	30.7%	29.5%	32.0%	31.2%	27.2%	33.7%	30.1%	27.8%	35.2%
Over JPY 400,000	12.1%	14.4%	10.9%	12.7%	19.7%	7.2%	11.8%	12.3%	12.2%	20.3%
Average (unit: JPY 10,000)	21.9	22.1	19.6	21.9	25.6	18.5	20.9	20.6	19.9	25.0

**JPY 100,000 = about US$ 952 as of October 24, 2014

Source: Market Insight 2013

Travel Expenditure by destination (2010-2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others (inc. Oman)
Less than JPY 100,000	2.6%	47.0%	19.6%	1.5%	5.4%	3.7%	26.7%	1.3%
JPY 100,000 to JPY 199,999	13.8%	38.3%	44.6%	23.2%	17.0%	29.6%	47.4%	20.3%
JPY 200,000 to JPY 399,999	50.3%	12.1%	29.9%	49.1%	51.4%	47.6%	21.2%	48.6%
Over JPY 400,000	33.3%	2.5%	5.9%	26.2%	26.3%	19.1%	4.6%	29.9%
Average (unit: JPY 10,000)	35.3	12.0	17.7	31.8	31.8	28.2	15.0	33.6

**JPY 100,000 = about US$ 952 as of October 24, 2014

Source: Market Insight 2013

Other Indicators
Length of Stay (Holiday Travel)

Length of Stay by gender & age group (2010-2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
1 - 3 nights	40.2%	38.3%	38.4%	40.0%	24.1%	45.9%	34.0%	39.0%	43.9%	22.1%
4 - 6 nights	41.6%	44.4%	42.3%	36.5%	34.8%	33.9%	44.5%	39.3%	30.4%	33.7%
7 - 10 nights	13.9%	13.9%	15.9%	19.2%	31.9%	16.2%	17.8%	16.7%	22.1%	37.3%
11 nights or more	4.3%	3.5%	3.4%	4.2%	9.2%	4.0%	3.7%	5.0%	3.6%	7.0%
Average	4.7	4.6	4.8	5.0	6.4	4.7	5.0	4.9	4.8	6.2

Source: Market Insight 2013

Length of Stay by destination (2010-2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others (inc. Oman)
1 - 3 nights	4.7%	72.5%	23.1%	4.9%	5.3%	6.7%	50.9%	5.0%
4 - 6 nights	25.9%	22.1%	54.2%	56.8%	64.2%	72.8%	45.9%	28.0%
7 - 10 nights	57.8%	4.0%	16.2%	26.1%	25.2%	17.1%	2.2%	54.2%
11 nights or more	11.6%	1.3%	6.5%	12.2%	5.2%	3.4%	1.0%	12.8%
Average	7.8	3.3	5.6	7.2	6.3	5.6	3.8	7.8

Source: Market Insight 2013

Other Indicators – cont.
Household Income (Holiday Travel)

Household income by gender & age group (2010-2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
10 million yen or more	21.1%	15.7%	28.6%	38.6%	15.3%	18.6%	13.5%	22.5%	34.7%	12.0%
7 to less than10 million yen	10.4%	19.0%	29.3%	26.2%	18.7%	18.3%	19.8%	25.6%	23.8%	13.9%
5 to less than 7 million yen	26.3%	37.1%	24.0%	18.7%	21.9%	17.8%	30.0%	23.9%	21.8%	22.6%
less than 5 million yen	42.2%	28.2%	18.1%	16.6%	44.0%	45.3%	36.7%	28.0%	19.6%	51.5%

**JPY 10 million = about US$ 95,200 as of October 24, 2014

Source: Market Insight 2013

Household income by destination (2010-2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others (inc. Oman)
10 million yen or more	20.4%	19.8%	22.8%	25.3%	21.1%	25.5%	21.8%	17.0%
7 to less than 10 million yen	20.9%	20.6%	19.6%	21.7%	19.5%	22.1%	24.6%	17.6%
5 to less than 7 million yen	23.0%	24.6%	21.2%	22.8%	29.8%	24.0%	24.7%	25.1%
less than 5 million	35.6%	35.0%	36.4%	30.2%	29.7%	28.4%	28.9%	40.2%

**JPY 10 million = about US$ 95,200 as of October 24, 2014

Source: Market Insight 2013

Other Indicator- cont.
Travel Arrangement (Holiday Travel)

Travel arrangement by gender & age group (2010-2012)

		Male					Female				
		20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Booking via travel agency	Full Package	13.6%	10.5%	7.1%	11.0%	34.6%	12.0%	12.4%	11.3%	18.8%	42.4%
	Package (free + Skelton)	52.7%	48.3%	43.0%	46.3%	43.6%	65.6%	56.9%	50.0%	54.8%	41.0%
	Dynamic Package and custom-made travel	20.4%	28.4%	33.2%	31.5%	13.6%	15.0%	20.7%	24.0%	17.3%	9.8%
Direct Booking		13.4%	12.8%	16.6%	11.2%	8.2%	7.4%	10.1%	14.7%	9.1%	6.8%

Source: Market Insight 2013

Travel arrangement by destination (2010-2012)

		Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others (inc.Oman)
Booking via Travel Agency	Full Package	51.2%	8.3%	10.3%	13.7%	21.7%	6.4%	3.6%	52.3%
	Package (free + Skelton)	18.0%	61.6%	47.3%	35.4%	53.2%	63.5%	80.3%	27.9%
	Dynamic Package and custom-made travel	22.2%	19.8%	29.5%	33.7%	13.5%	17.4%	9.6%	12.1%
Direct Booking		8.6%	10.2%	12.9%	17.2%	11.6%	12.8%	6.5%	7.7%

Source: Market Insight 2013

Other Indicator – cont.
Information Source (Holiday Travel)

Information source by gender & age group (2010-2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Travel agencies	41.2%	29.9%	19.2%	25.8%	26.7%	37.7%	26.4%	19.5%	20.2%	20.2%
Travel agency pamphlets	35.9%	32.7%	27.8%	38.9%	54.4%	37.6%	38.9%	37.4%	45.9%	61.9%
Travel guidebooks	40.8%	52.3%	50.0%	48.2%	55.4%	58.4%	61.1%	56.5%	55.3%	55.2%
Internet	73.0%	80.1%	86.6%	78.8%	78.3%	71.5%	85.7%	84.6%	82.8%	74.9%
Relatives and friends	16.6%	8.8%	11.0%	6.3%	6.2%	17.2%	19.4%	15.3%	13.8%	8.7%
Media	11.0%	7.5%	11.5%	10.1%	12.5%	9.0%	11.7%	14.5%	14.8%	16.3%
Airline and railway companies	15.7%	9.5%	15.7%	12.1%	9.8%	6.6%	11.1%	11.2%	10.4%	7.1%
National/regional tourist boards	12.6%	11.6%	20.1%	20.3%	26.8%	11.6%	23.3%	23.3%	20.9%	20.8%
Others (inc. Oman)	4.4%	2.4%	4.4%	4.6%	5.8%	2.6%	5.1%	5.1%	3.7%	4.3%

Source: Market Insight 2013

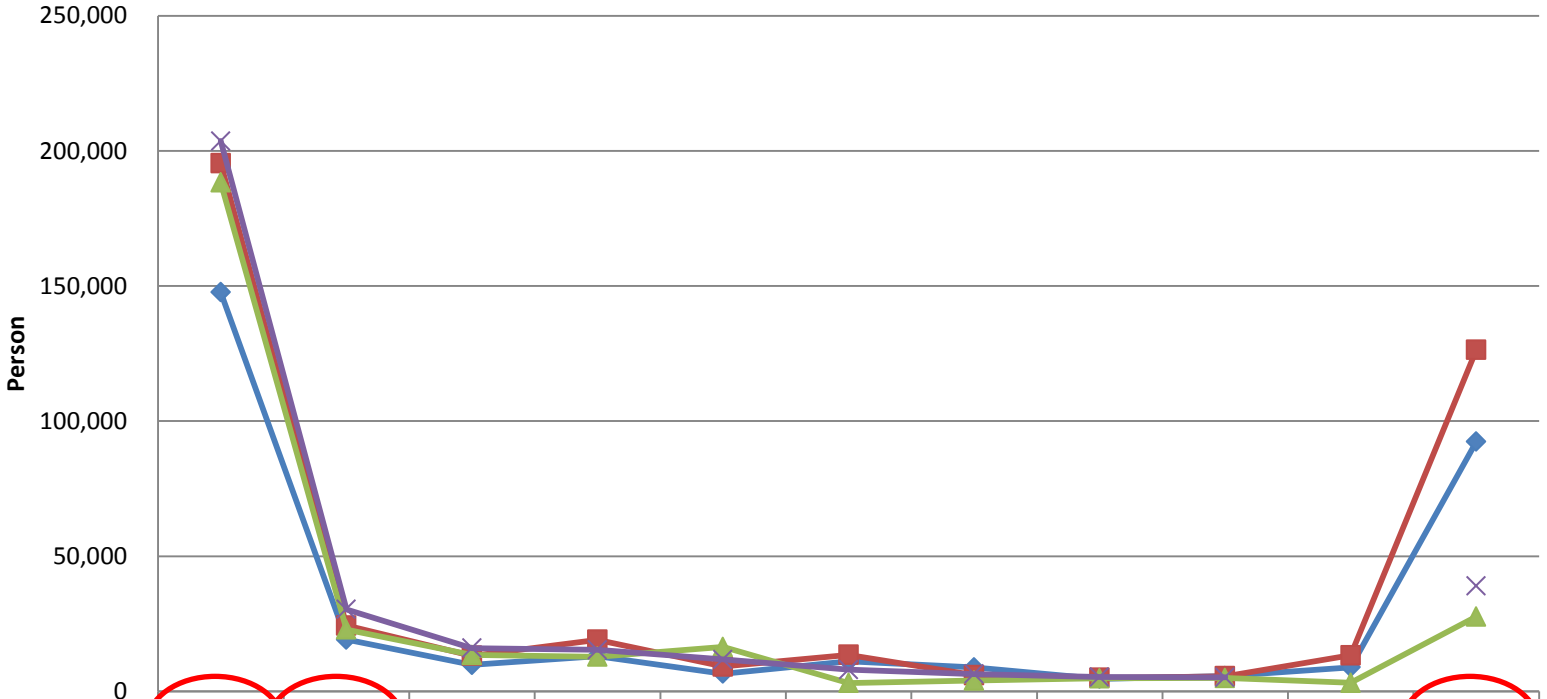
Other indicator – cont.
Information Source (Holiday Travel)

Information source by destination (2010-2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
Travel agencies	30.5%	23.8%	24.1%	22.6%	33.1%	32.1%	33.8%	28.3%
Travel agency pamphlets	51.8%	35.3%	36.1%	32.9%	52.5%	45.2%	43.8%	50.4%
Travel guidebooks	64.5%	49.1%	54.4%	55.5%	52.8%	53.7%	49.6%	57.9%
Internet	79.2%	77.5%	81.7%	83.8%	79.4%	80.3%	74.6%	78.1%
Relatives and friends	13.3%	11.6%	10.0%	12.5%	13.7%	18.0%	12.2%	10.1%
Media	16.2%	11.9%	7.9%	9.8%	7.8%	16.6%	8.7%	13.2%
Airline and railway companies	14.5%	7.6%	13.4%	14.6%	12.7%	13.4%	6.8%	10.1%
National/regional tourist boards	26.1%	15.6%	20.1%	18.2%	26.8%	17.5%	15.2%	22.6%
Others (inc. Oman)	5.6%	3.7%	3.7%	6.8%	6.3%	4.7%	3.1%	5.2%

Source: Market Insight 2013

Other Indicators – cont.
Japanese Arrivals by Country



	Turkey	Morocco	Israel	Jordan	Saudi Arabia	Tunisia	Oman	Kuwait	Iran	Syria	Egypt
2009	147,641	19,149	9,768	13,052	6,539	11,073	8,833	4,606	5,647	8,907	92,409
2010	195,404	24,366	13,165	19,052	9,210	13,495	5,977	4,959	5,592	13,361	126,393
2011	188,312	22,861	13,444	12,829	16,410	3,120	3,954	4,798	4,937	3,174	27,635
2012	203,592	30,306	16,011	15,321	11,803	8,002	6,398	5,291	5,143		39,008

Source: JNTO 2013

Number of Japanese Residents abroad

- GCC Countries

as of October 1, 2013

	Country	Number	Rank
1st	UAE	3,459 (Dubai:2,603, Abu Dhabi: 856)	29th
2nd	Qatar	1,045	45th
3rd	Saudi Arabia	835	-
4th	Bahrain	231	-
5th	Kuwait	195	-
6th	Oman	134	-

Number of Japanese Residents abroad – cont.

- European countries where Oman Air flies

as of October 1, 2013

	Country	Number	Rank
1st	UK (LON)	67,148	4th
2nd	German (FRA)	37,393	8th
3rd	France (PAR)	32,579	10th
4th	Italy (MIL)	13,401	17th
5th	Switzerland (ZUR)	9,870	20th

Number of Japanese Residents abroad – cont.

- Other European countries

as of October 1, 2013

	Country	Number	Rank
6th	Spain	7,680	23rd
7th	Netherland	6,532	24th
8th	Belgium	5,713	25th
9th	Sweden	3,235	30th
10th	Austria	2,839	31st

- Other potentials:
  - India: 7,883 (22nd)

Profiles of Japanese Travelers

Attributes

- Limited holiday period
- Japanese speaking Guide
- Travel in package tour (especially, seniors)
- Safety conscious
- Neat toilet

Interest

- Famous places such as world heritage sites
- Natural Sceneries
- Beach / marine activities
- Cultural experiences
- Souvenirs
- High service expectation
- Food service and preference for fine restaurants

SWOT Analysis of Oman as Tourism Destination for Japanese

Strengths

- Well developed accessibility
- Good accommodation
- Friendly and hospitality people
- Well restored historical monuments
- Authentic Arabic atmosphere
- Nature and wildlife
- Safety

Weakness

- Direct flight
- Awareness
- Japanese speaking guides
- Range of accommodations
- Arabian experience such as restaurants, traditional handicrafts
- Hygiene such as Toilets
- Time for visiting (Nov – Feb)

Opportunities

- Increasing tourism development projects
- Increasing investment on tourism sector
- Political stability within the region
- Japan host 2020 summer Olympic

Threats

- Negative perception caused by political unrest in the region
- Issues of waste management
- Less environmental sensitiveness

Current Packages

	Name of Company	Conditions		Destination
1	Japan Travel Bureau (JTB)	6 days ¥409,000	FIT	Muscat 1 night and Nizwa 1 night (Luxury Hotel)
2	Japan Travel Bureau (JTB)	6 days ¥409,000	Group	Same as Above
3	Club Tourism International Inc. (CTI)	5 days ¥369,000	Group	Muscat 2 nights including Nizwa excursion
4	World Air-Sea Service Co., Ltd.	7 days ¥225,000	Group	Muscat 3 nights including Nizwa excursion
5	Eurasia Travel Co., Ltd.	8 days ¥378,000	Group	Muscat, Salalah, and Nizwa
6	Saiyu Travel Co., Ltd.	8 days ¥398,000	Group	Muscat, Salalah, Nizwa, and Khasab
7	Tours' Express Inc.	9 days ¥369,000	Group	Nizwa 2 nights, Muscat 1 night, and Salalah 2 nights
8	Air Cristal	7 days ¥383,000	FIT	Muscat 2 nights including Wahiba desert, Sur, and Nizwa excursion
9	Five Star Club	6 – 8 days ¥175,000 - ¥235,000	FIT	1. Wahiba Desert and Muscat 2. Jabel Shamz, Nizwa and Muscat 3. Salalah and Muscat 4. Sur and Muscat 5. Salalah, Nizwa and Muscat

Recognized Challenges

- Awareness of Oman is limited in Japanese market.
- Information is limited for both sides.
- Tour operators who can communicate in Japanese are few.

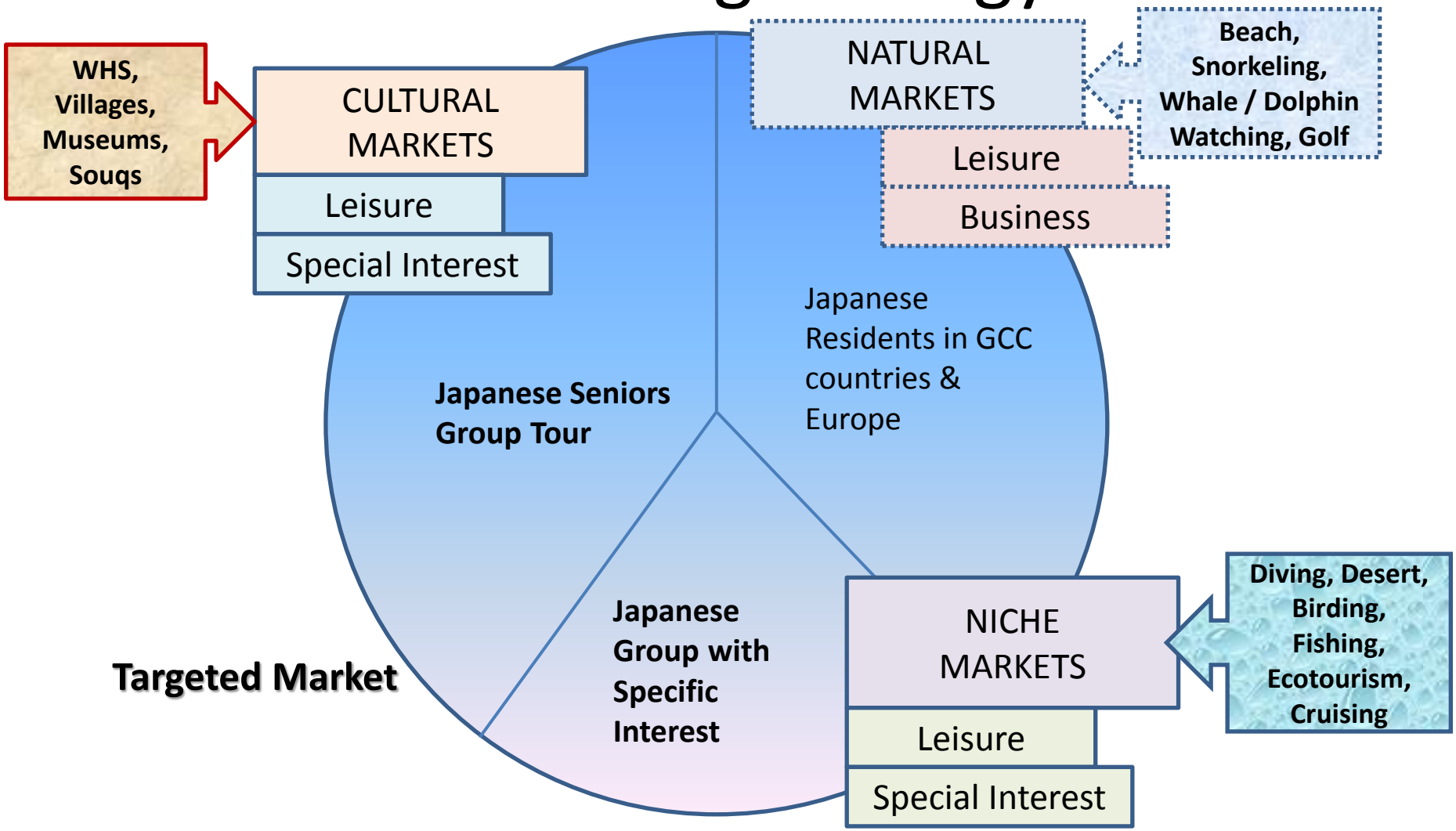
Recognized Challenges to Increase Japanese tourists

1. Limited source of information in Japanese on Oman
2. Limited awareness and misperception on Oman
3. Limited information on Japanese market
4. Limited information on tourism sites (Muscat-focus)
5. Limited correspondence in Japanese (including guide)

Recommendations

- Priority market is over 60s.
- Marketing research is essential to know needs of Japanese residents in GCC and Europe.
- Availability of Information in Japanese and awareness activities are prioritized.
- It is essential to establish a representative office in Japan.

General Directions of Marketing Strategy



Steps to Develop Marketing Strategy

1. Increase availability of information in Japanese on website
2. Develop promotion materials in Japanese
3. Conduct marketing research on Japanese residents in Dubai and Europe
4. Develop marketing strategy for Japanese residents in Dubai and Europe (in cooperation with representative office)
5. Create awareness towards Japanese residents in Dubai and Europe
6. Create awareness in Japan
   - Join JATA Tourism Expo 2015
   - Conduct Oman seminar to tour operators / travel agencies
   - Conduct FAM Trip
   - Conduct cultural events to introduce Oman in Japan in collaboration with Embassy of Oman in Japan
7. Establish a representative office in Japan
8. Conduct marketing research in Japan
9. Develop detailed marketing strategy

Timeline

		Proposed Activities	2015 1st	2015 2nd	2015 3rd	2015 4th	2016 1st	2016 2nd	2016 3rd	2016 4th
General	1	Increase availablity of informaion in Japanese on website								
	2	Develop Promotion Materials in Japanese								
Regional	3	Conduct marketing research on Japanese residents in Dubai and Europe								
	4	Develop marketing strategy for Japanese residents in Dubai and Europe								
	5	Create awareness towards Japanese residents in Dubai and Europe								
Japan	6	Create awareness in Japan								
		・Join JATA Tourism Expo 2015								
		・Conduct Oman seminar to tour operators / travel agencies								
		・Conduct FAM Trip								
		・Conduct cultural events to introduce Oman in Japan in collaboration with Embassy of Oman in Japan								
	7	Establish a representative office in Japan								
	8	Conduct marketing research in Japan								
	9	Develop detailed marketing strategy								

Recommendations

- Institutional
  - Special permission with guides who speak rare languages
- Facilities
  - Improve quality of exhibition ex. Bahla Fort
  - Develop rest areas between tourism destinations
- Locals
  - Raise environmental sensitiveness

Examples

Facilities

Environmental Sensitiveness

Marketing Strategy will include:

- Market Analysis
- Targeted segment
- Attributes of targeted segment (external)
- Interest of targeted segment (internal)
- Sample itineraries (Product Portfolio)
- Channels to access to targeted segment
- Promotional activities to attract targeted segment

Targeted Segment: couple over 60s

Attributes of the segment

- Join group tour booked through travel agencies
- Collect information through website, travel agencies' pamphlet

Interest of the segment

- World Heritage Site
- Museums
- Villages
- Local markets
- Local cuisine
- Local dance & music

Sample Itinerary

Day		Schedule
Day 1	PM	Leave Japan
Day 2	AM	Arrive at Muscat
	PM	Visit Matola Souq and Bait Al Zubeir
Day3	AM	Visit Sultan Qaboos Grand Mosque
	PM	Move to Salalah
Day 4		Visit Ubar / Shisr
Day 5	AM	Visit Frankincense museum
	PM	Fly back to Muscat
Day 6	AM	Move and Visit Al Hamra
	PM	Visit Bahla fort and move to Nizwa
Day 7	AM	Visit Nizwa fort, market and faraj
	PM	Move to Muscat and fly back
Day 8	PM	Arrive at Japan

Channels and Promotional Activities

Channels to access to segment

- Contact with travel agencies which have clients of over 60s to diversity their products,
  - JTB
  - Club Tourism
  - World Air Service
  - Eurasia
  - Saiyu Travel
  - Tours' Express
  - Others

Promotional Activities (B2B)

- Join JATA Tourism EXPO
  - International Business Meeting
- Organize Oman seminar
- Organize FAM Trip
- Access media to have documentary film

Proposal for Further Cooperation

Issues to be tackled

Strengths	***Weakness***
•Well developed accessibility •Good accommodation •Friendly and hospitality people •Well restored historical monuments •Authentic Arabic atmosphere •Nature and wildlife •Safety	•Direct flight •Awareness •Japanese speaking guides •Range of accommodations •Arabian experience such as restaurants, traditional handicrafts •Hygiene such as Toilets •Time for visiting (Nov – Feb)
•Increasing tourism development projects •Increasing investment on tourism sector •Political stability within the region •Japan host 2020 summer Olympic ***Opportunities***	•Negative perception caused by political unrest in the region •Issues of waste management •Less environmental sensitiveness ***Threats***

Proposal for Future Cooperation

Under the Marine Environment Conservation Strategy 2040, the following component will be proposed:

- Pilot project(s) utilizing EBSA* sites (e.g. Eco-tourism and Environment education), in cooperation with Ministry of Tourism
  - Identify the EBSA site in consultation with the Ministry of Tourism (e.g. Al Kheiran Coast Line)
  - Develop plan for a project for sustainable utilization of the area, including community involvement
  - Implement the project (e.g. walk path, exhibitions, visitor centers, environmental education program, etc.)
  - Develop monitoring and evaluation plans of the project

*Ecologically Biologically Significant Area

Proposal for Future Cooperation– cont.

- Overall Goal:
  - The established mechanism of EBSA site is functional.
- Project Purposes:
  - The mechanism of managing EBSA site is established.
- Outputs of the Project:
  - Identify the pilot EBSA site in consultation with the Ministry of Tourism (e.g. Al Kheiran Coast Line)
    - Define ecotourism
    - Develop ecotourism guideline
    - Develop criteria to utilize EBSA as ecotourism site
    - Set up rules and regulations of pilot EBSA site

Proposal for Future Cooperation –cont.

- Develop plan for a project for sustainable utilization of the area, including community involvement
  - Designate ecotourism development area
  - Agree with organizational framework (eg. ecotourism committee) to manage the site
  - Plan necessary small-scale infrastructure to receive tourists
  - Plan necessary equipment and human resource to operate the site properly
  - Identify necessary training areas such as management, community involvement framework, ecotourism guides, etc.

Proposal for Future Cooperation –cont.

- Implement the project (e.g. walk path, exhibitions, visitor centers, environmental education program, etc.)
  - Set up ecotourism committee among stakeholders
  - Organize regular committee meeting
  - Supervise construction of small-scale infrastructure
  - Support to develop ecotourism activities / programs
  - Implement training programs
- Develop monitoring and evaluation plans of the project


شكرا جزيلا ك
Thank you very much!
ありがとうございます!

Recommendations for Developing Marketing Strategy and Further Cooperation
18 Oct-30 Oct 2014

Final Report (Draft)

Japan International Cooperation Agency
November 2014

Recommendations for Developing Marketing Strategy and Further Cooperation, 18 Oct-30 Oct 2014: Final Report (Draft)

Table of Contents

Abbreviations and Acronyms

DMC	Destination Marketing Company
EBSA	Ecologically Biologically Significant Area
FAM Trip	Familiarization Trip
GCC	Gulf Cooperation Council
JICA	Japan International Cooperation Agency
MECA	Ministry of Environment and Climate Affairs
MOT	Ministry of Tourism
SMEs	Small and Medium Enterprises
TOR	Terms of Reference

1. Background

The Japan International Cooperation Agency (JICA) has been conducting the research of finding out concrete needs for technical cooperation between the Gulf Cooperation Council (GCC) countries, including the Sultanate of Oman (hereinafter, Oman), and Japan, based on the discussions held by Japan's Prime Minister Shinzo Abe with the responsible parties of GCC when he visited those countries in 2013.

The Ministry of Tourism (hereinafter, MOT) in Oman requested JICA through the above mentioned research to dispatch an expert to advise marketing strategy to increase number of Japanese visitors. The assigned expert is requested to recommend general directions and steps to develop a detailed marketing strategy during this mission.

Oman is abundant in geographical natural features such as desert, mountains, lagoons and oceans. The 80% of the area of Oman is covered by desert which Japanese can easily imagine as a synonym of the Middle East countries. Oman also has 3,000 km of long coastline with rich marine resources such as mangroves, coral reefs, and ecosystems, as well as, mountains in north-eastern and southern part, and the fjord topography in northern part. The above mentioned various natural features differentiate Oman from neighbouring countries in terms of tourism. Additionally, Oman is blessed with historical and cultural resources which were derived from its history as trading point due to its geographical location. Those resources have great potential for tourism, therefore, the number of international tourists have steadily increased and counted to over 2 million in 2012, as the result of marketing activities.

On the other hand, Japanese tourists were 5,500 in 2013 and 6,400 in 2012. The number was 13.9% down comparing in 2013 with it in 2012. It was 0.26% of total number of international tourists in 2013. In order to increase the number of Japanese tourists, this research was conducted from October 18 to October 24, 2014.

2. Objectives and Overview of the Research

2.1. Objectives

The objectives of this research are as follows:

- To analyse the current conditions of tourism sector in Oman
- To abstract constraints to increase Japanese tourists to Oman
- To recommend general directions and steps to develop a marketing strategy to increase Japanese tourists, and
- To recommend the directions for Japan's technical cooperation in future.

2.2.An overview of the Research Schedule

The meetings and site visits were conducted according to the schedule shown in the table below.

Table 1: Research Schedule

Date	Place / Region	Agenda / Itinerary	Overnight
Oct 18 (Sat)	MOT / Muscat	Check in the Hotel	Inter-continental
Oct 19 (Sun)	MOT / Muscat	Meeting with; ・Director General (DG) of Tourism Promotion ・Deputy DG of Tourism and Internal Events ・Deputy DG of International Promotion Muscat City Tour (Mautrah Souq and Old Muscat)	Inter-continental
Oct 20 (Mon)	MOT / Muscat	Meeting with; ・DG of Planning, Follow up & Information ・DG of Investors Services & Quality Management ・DG of Tourism Development ・OMRAN	Inter-continental
Oct 21 (Tue)	MOT / Muscat	Meeting with; ・Destination Marketing Companies (DMCs) Zahara Tours, Mark Tours, and Bahwan Tours ・Oman Sail	Inter-continental
Oct 22 (Wed)	Muscat – A' Dakhiliyah	・Nakhal Fort, Faraj, Balad Sayt Village ・Wadi Bani Awf, Al Jabal Al Akhdar ・Misfat and Al Hamra	The View
Oct 23 (Thu)	A' Dakhiliyah	・Bahla Fort, Cray Pottery Factory ・Meeting with Head of Regional Administration of Tourism (Nizwa) ・Nizwa Fort	Golden Tulip Nizwa
Oct 24 (Fri)	A' Dakhiliyah - Sharqiya	・Nizwa Market, Falaj Daris ・Sharqiya Sands and Dune Bashing	Arabian Oryx Camp
Oct 25 (Sat)	Sharqiya - Muscat	・Bedouin Lady's House ・Wadi Bani Khalid ・Sur (Dhow factory)	Holiday Inn Seeb
Oct 26 (Sun)	Muscat - Salalah	・Mirbat, Dhofar Mountains, Taqah, Wadi Darbat, Anti-Gravity Spot, Al Hafa Souk ・Meeting with DG of Tourism In Dhofar	Rotana Hotel
Oct 27 (Mon)	Salalah - Muscat	・Frankincense Park, Al Nabi Ayub Tomb, Blue Hole, Ali Balid Archaeological Park and Frankincense museum	Shangri-La
Oct 28 (Tue)	MOT / Muscat	・Meeting with the Directorate of Tourism Development of MOT and Protected Areas of MECA ・Site Visits (Amouage, Royal Opera House, Ubar Restaurant, Al Mouji Golf)	Shangri-La
Oct 29 (Wed)	MOT / Muscat	・Sultan Qaboos Grand Mosque ・Meeting with Public Authority of SMEs Development	Shangri-La
Oct 30 (Thu)	MOT / Muscat	・Presentation by JICA Expert and discussion ・Meeting with the Directorate of Planning, Follow-up & Information	Shangri-La

3. Potentials of Japanese Market

3.1.Current Tourists Arrivals to Oman

Oman has currently received over 2 million tourist arrivals, 2 million in 2012 and 2.1 million in 2013. It was 1.4 million in 2011, however, it achieved 48% increase in 2012 and 2.8% increase in 2013. Observing the arrivals by region, the number of arrivals from GCC countries ranked first 0.8 million and second from Europe, 0.36 million. East Asia which includes Japan got highest increase rate 20.4% in 2013. It was led by Indonesia and Thailand. In fact, the below table shows the ratio of Japanese arrivals decreased 13.9% in 2013. The ratio of Japanese arrivals stays only 0.26% of the total international tourist to Oman.

Table 2: Tourists by Regions

Number	2,011	2,012	2,013	Ratio (13/12)
Africa	9,947	11,959	12,301	2.9%
Americas	46,880	60,167	72,007	19.7%
Australia	8,213	14,058	15,616	11.1%
East Asia	34,153	56,689	68,263	20.4%
Europe	249,680	314,195	363,166	15.6%
Middle East	86,032	124,860	139,715	11.9%
South Asia	207,886	306,643	339,032	10.6%
Others	17,606	40,401	42,223	4.5%
Omanis	72,258	88,803	97,863	10.2%
Others GCC	662,196	789,461	793,466	0.5%
Cruise Ship		256,721	177,577	-30.8%
Total	1,394,851	2,063,957	2,121,229	2.8%

Source: MOT

Table 3: Ratio of Japanese Arrivals

Number	2011	2012	2013	Ratio (13/12)
Japanese	3,954	6,398	5,508	-13.9%
Total	1,394,851	2,063,957	2,121,229	2.8%
Ratio (%)	0.28	0.31	0.26	

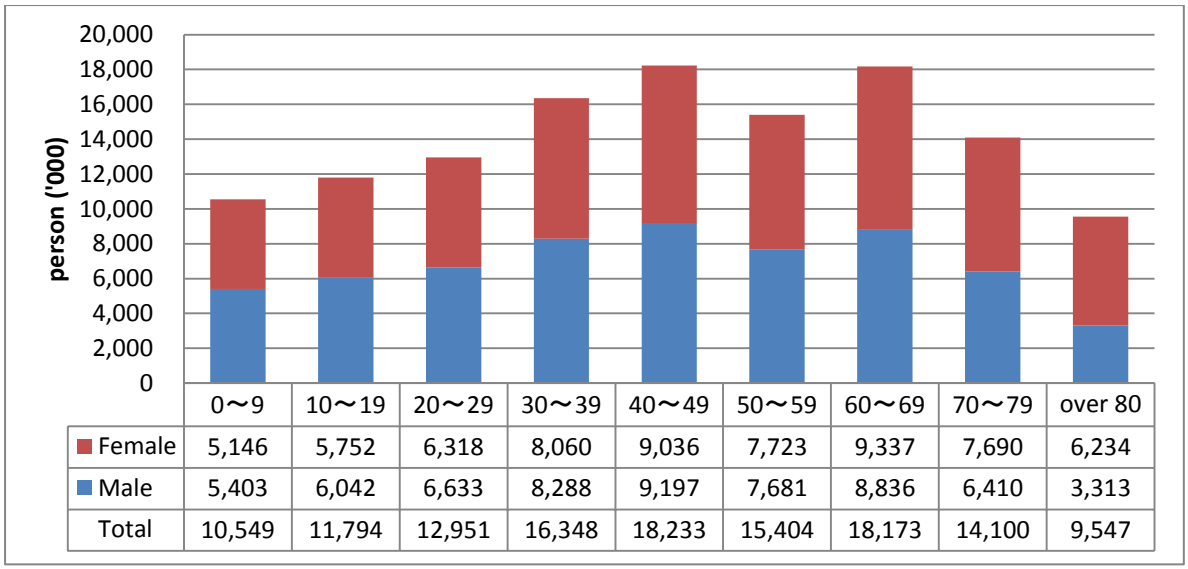
Source: MOT

3.2.Potentials of Japanese Market

a. Japanese Demographics

Japanese population is 127 million as of May 1, 2014. Out of 127 million, forties has the highest population 18.23 million, 14.3% of the total population. The second highest is the sixties, 18.17 million, almost same as forties. The characteristic of Japanese demography is that half of the total population is over forties.

Table 4: Japanese Population by Generation



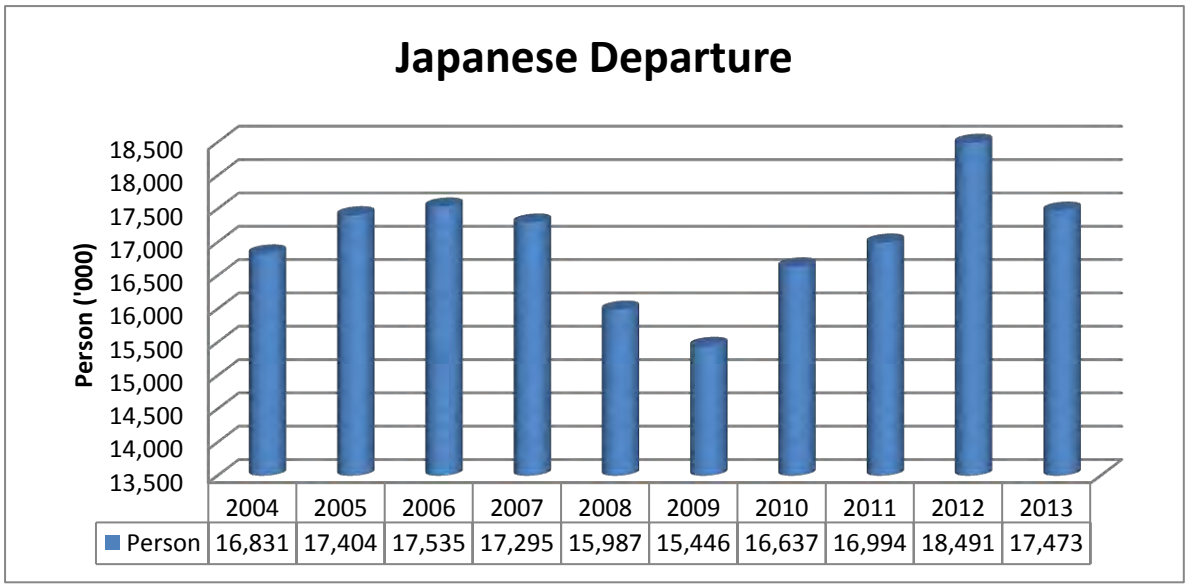
	0～9	10～19	20～29	30～39	40～49	50～59	60～69	70～79	over 80
Female	5,146	5,752	6,318	8,060	9,036	7,723	9,337	7,690	6,234
Male	5,403	6,042	6,633	8,288	9,197	7,681	8,836	6,410	3,313
Total	10,549	11,794	12,951	16,348	18,233	15,404	18,173	14,100	9,547

Source: Statistics Bureau in Japan

b. Japanese Departures

Japanese departures ranked the highest over 18.5 million in 2012. The number decreased in 2013 due to the political instability with China and Korea. Since China and Korea are part of the most popular countries as short-haul destination for Japanese, the political situation brought the great impact on it.

Table 5: Japanese Departure



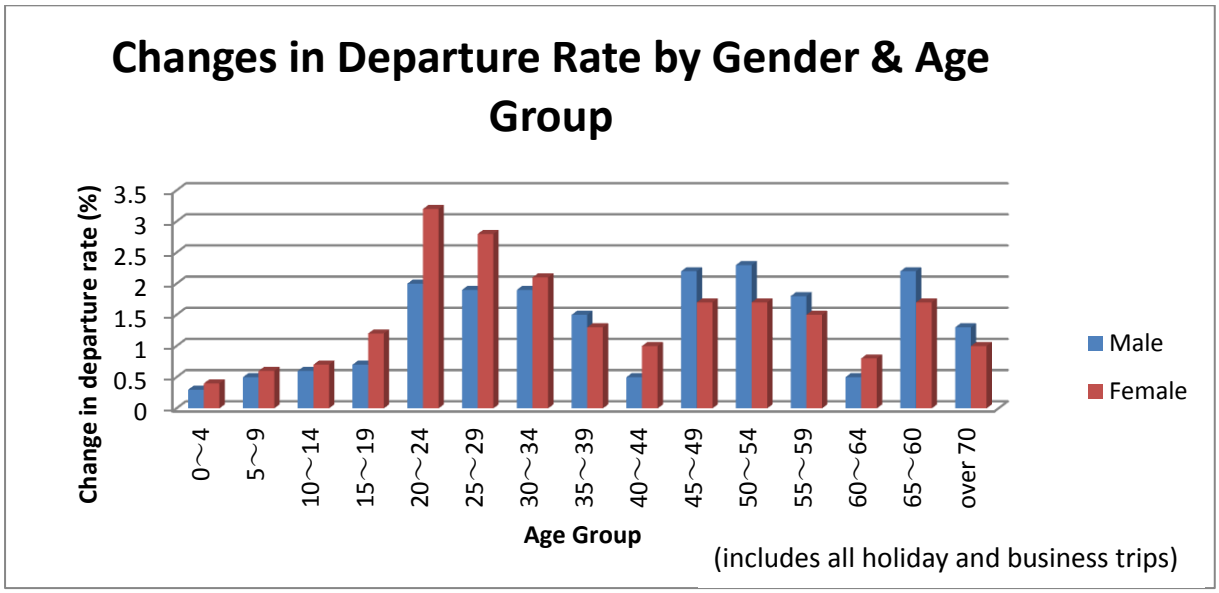
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Person	16,831	17,404	17,535	17,295	15,987	15,446	16,637	16,994	18,491	17,473

Source: Market Insight 2013 / Ministry of Justice in Japan

c. Changes in Japanese Departure by Gender & Age Group

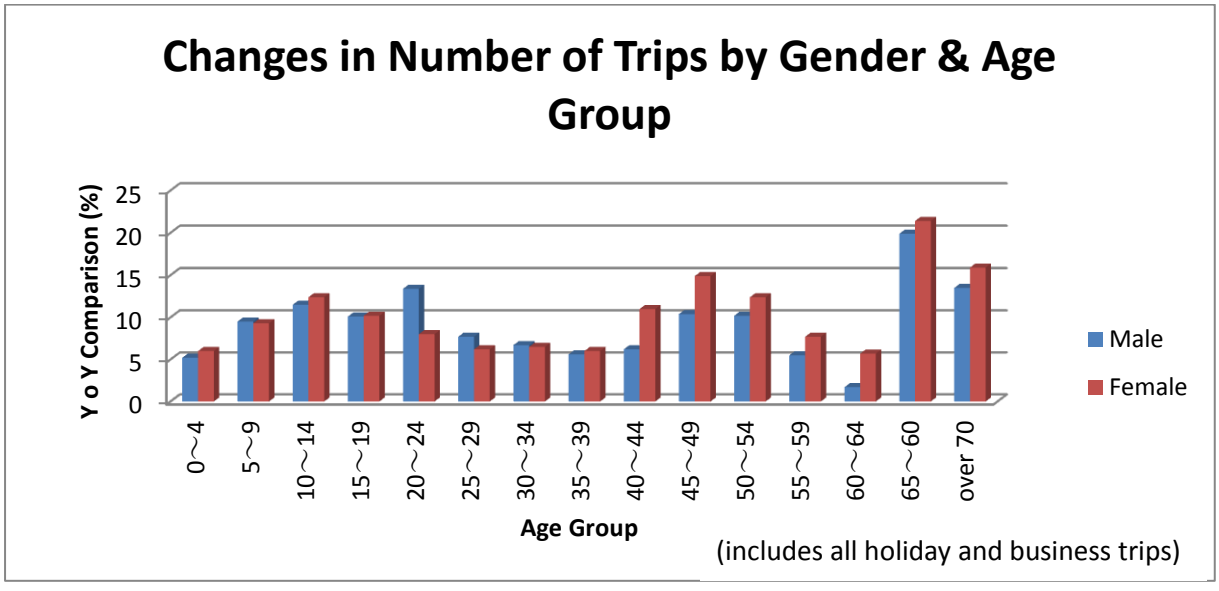
Table 63-5 and 73-6 show a tendency of Japanese departures by generation, comparing in 2012 with 2011. The number of departure was led by the female in twenties and it increased around 3%. The male in the late forties and the early fifties also increased over 2%. It is assumed that they are on business trips. The male of the late sixties, after their retirement, also increased over 2 %. Observing the number of trips, on the other hand, both male and female in the late sixties and over seventies were outstanding. They tend to travel more frequently than those in other generation.

Table 6: Changes in Departure Rate



Source: Market Insight 2013

Table 7: Changes in Number of Trips

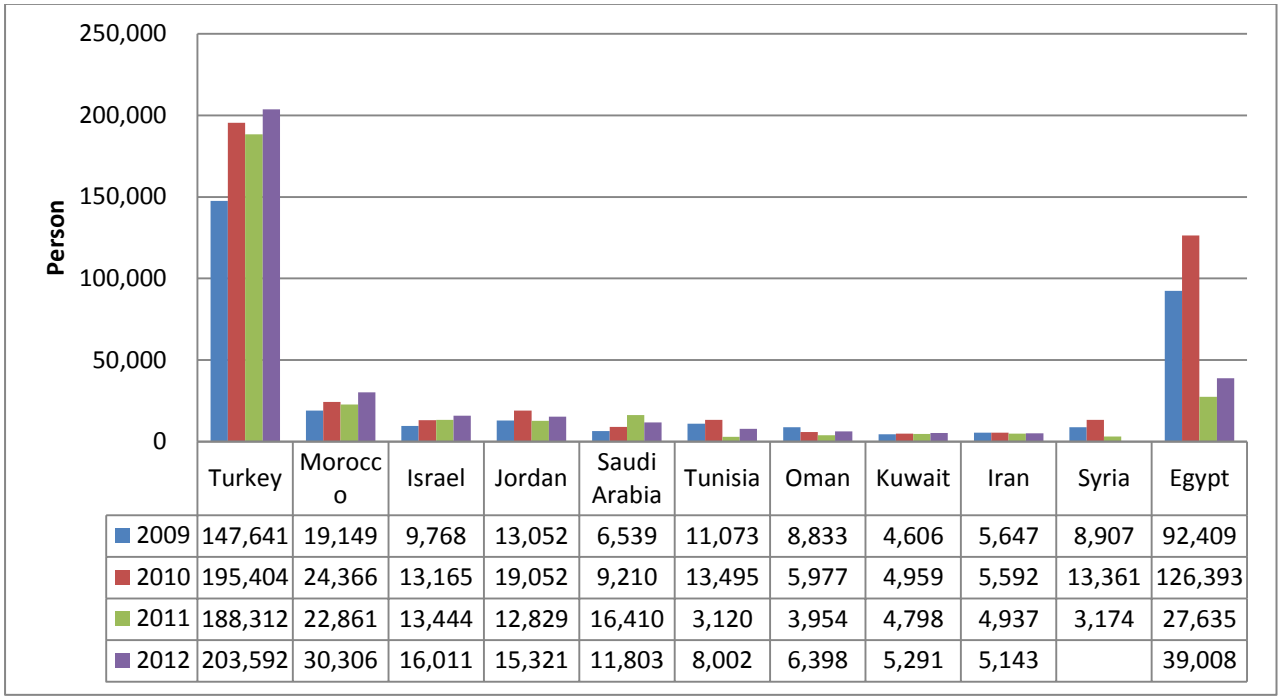


Source: Market Insight 2013

d. Japanese Arrivals by Country in Middle East

The table below shows the number of Japanese arrivals by Country in the Middle East. Turkey and Egypt are obviously most popular destination for Japanese in the region. In spite of political instability, quite great number of Japanese still visited Egypt. Once Oman obtains high reputation as attractive destination by Japanese, there should be room for growth.

Table 8: Japanese Arrivals by Country in Middle East



	Turkey	Morocco	Israel	Jordan	Saudi Arabia	Tunisia	Oman	Kuwait	Iran	Syria	Egypt
2009	147,641	19,149	9,768	13,052	6,539	11,073	8,833	4,606	5,647	8,907	92,409
2010	195,404	24,366	13,165	19,052	9,210	13,495	5,977	4,959	5,592	13,361	126,393
2011	188,312	22,861	13,444	12,829	16,410	3,120	3,954	4,798	4,937	3,174	27,635
2012	203,592	30,306	16,011	15,321	11,803	8,002	6,398	5,291	5,143		39,008

Source: Japan National Tourist Organization 2013

e. Other Indicators (refer to Annex)

The following market analyses which were abstracted through various indicators show the great potential of the sixties as one of the targeted segments for Oman and their behavior.

- Market by Destination;
  The biggest outbound destination for Japanese market is Northeast Asia, where 30.5% of total holiday traveller visited in 2012. The next biggest destination was Europe (19.1%) rather than Southeast Asia (17.2%) in 2012. Overall, short haul[1] traveller counted to 56.0% and long haul[2] 44.0%. Nevertheless short or long haul, people choose the destination depending on their interest.
- Travel Expenditure;
  The age group of over sixties tend to spend more than other generation. The biggest rate (male: 31.2%, female: 35.2%) within the age group of over sixties spent the range from JPY 200,000 to JPY 399,999 (equivalent form OMR 672 to OMR 1,344). The other generation did from JPY 100,000 to JPY 199,999 (from OMR 336 to 672). Looking at the expenditure by destination, people spent JPY 200,000 to JPY 399,999 (equivalent form OMR 672 to OMR 1,344) for long haul destination.

[1] Refers to Northeast Asia, Southeast Asia, Guam and Saipan
[2] Refers to Europe, Oceania, Hawaii, and Others (including. Oman)

- Length of Stay;
  The age group of over sixties also tend to stay longer than other generation. The average of length of stay for male traveller was 6.4days and the female was 6.2 days. The average of length of stay to Europe and categorized others such as Middle East and Africa was 7.8 days.
- Household Income;
  The statistics shows that greater ratio of the people whose household income was even less than JPY 5 million (about OMR 16,800) went to travel to both short and long haul destination. It implies that people are motivated to travel not because of their wealthy, but of their interest.
- Travel Arrangement and;
  Japanese holiday travellers tend to utilize several types of packages rather than direct booking. Observing the arrangement by destination, travellers who went to Europe and Others tend to join full packages.
- Information Source.
  The statistics shows that the travellers of all the generation collect information, first through website and second through travel guidebooks. Looking at the result by destination, it shows the same, first website and second travel guidebooks. They follow orthodox way of gathering information.

f. Number of Japanese Residents Abroad

It is one of the possibilities to approach Japanese residents abroad in order to increase Japanese tourists to Oman. The table below shows the number of Japanese residents in GCC countries, and European countries. The countries such as United Kingdom, German, France, and Italy where more than 10,000 Japanese reside are coincidently places where the direct flight to Oman and marketing representative offices of Oman are available. It is worth trying to approach them through existing channels.

Table 9: Number of Japanese Residents in GCC and Europe Countries

	Country	Number
1st	UAE	3,459 (Dubai 2,063, Abu Dhabi: 856)
2nd	Qatar	1,045
3rd	Saudi Arabia	835
4th	Bahrain	231
5th	Kuwait	195
6th	Oman	134

*Other Potential: India (7,883)

GCC Countries

	Country	Number
1st	United Kingdom	67,148
2nd	German	37,393
3rd	France	32,579
4th	Italy	13,401
5th	Switzerland	9,879
6th	Spain	7,680
7th	Netherland	6,532
8th	Belgium	5,713
9th	Sweden	3,235
10th	Austria	2,839

European Countries

Source: Ministry of Foreign Affairs in Japan

4. Findings on Current Conditions of Tourism Sector in Oman

4.1.Tourism Attractions

The following table evaluates visited tourism attractions from the aspects of interest (I), distance (D), restoration condition if any (R), and facilities (F). As the indicator of "interest", 1st signifies 'must see', 2nd,"better to see", and 3rd, "see when you have enough time", considering their uniqueness from Japanese point of view. The mark of ◎ indicates very good, ○ good, △acceptable, and ×not acceptable. Note that Dimaniyat Islands and Ras Al Hadd were not visited on this occasion, however, those are also included in the below list since marine costal resources are quite important for tourism in Oman.

Overall, tourism attractions are interesting and well restored, however, their facilities such as exhibition, toilets and small-scale infrastructure are necessary to be improved.

a. Muscat

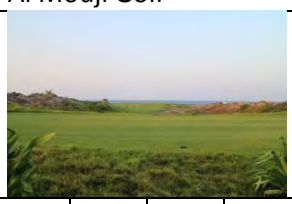
1. Historical and Cultural

Sultan Qaboos Grand Mosque				Royal Opera House				Bait Al Zubeair Museum				Mautrah Souq			
															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
1st	◎	-	◎	1st	◎	-	◎	1st	◎	◎	◎	1st	◎	◎	○

2. Craft

Amouage															
															
I	D	R	F												
1st	○	-	◎												

3. Recreation

Al Mouji Golf															
															
I	D	R	F												
2nd	◎	-	◎												

4. Natural Scenic

Wadi Shab															
															
I	D	R	F												
3rd	○	-	△												

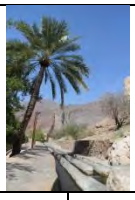
5. Marine Costal

(Dimaniyat Island)															
															
I	D	R	F												
1st	◎	-	△												

b. Dhakhiliya & Sharqiya

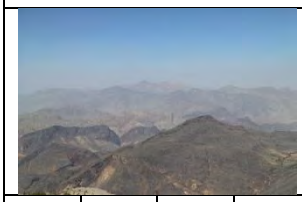
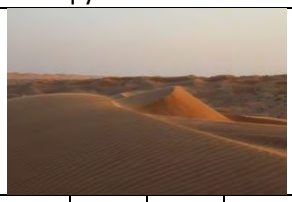
1. Historical and Cultural

Nakhal Fort				Balad Sayt Village				Al Hamra				Misfat			
															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
2nd	◎	◎	-	1st	○	-	△	2nd	○	-	△	1st	○	○	○
Bahla Fort				Nizwa Fort				Nizwa Souq				Falaj Irrigation System			

															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
2nd	○	○	△	1st	○	○	○	1st	○	○	○	1st	○	-	○

2. Natural Scenic

3. Marine Costal

Al Jabal Al Akhdar				Sharqiya Sands				Wadi Bani Khalid				(Ras Al Hadd)			
															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
2nd	○	-	△	2nd	△	-	○	3rd	△	-	○	1st	○	-	○

4. Craft & Culture

Cray Pottery Factory				Bedouin Lady's House				Dhow Factory (Sur)			
											
I	D	R	F	I	D	R	F	I	D	R	F
1st	○	-	○	2nd	△	-	○	2nd	○	-	△

c. Dhofar (Salalah)

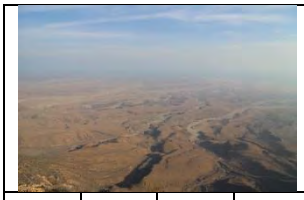
1. Historical and Cultural

Mirbat				Taqah				Al Hafa Souq				Al Nabi Ayub Tomb			
															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
2nd	○	-	△	2nd	○	-	△	1st	◎	-	○	3rd	○	-	△

Frankincense Park				Balid Archaeological				Frankincense Museum			
											
I	D	R	F	I	D	R	F	I	D	R	F
2nd	○	-	△	1st	◎	-	◎	1st	◎	-	◎

2. Natural Scenic

Dhofar Mountains	Well of Birds	Wadi Darbat	Blue Hole

															
I	D	R	F	I	D	R	F	I	D	R	F	I	D	R	F
2nd	○	-	△	3rd	○	-	△	2nd	○	-	○	3rd	○	-	△

4.2.Accessibility

a. International

To access from Japan to Oman, there are no direct flights. On the other hand, Emirates Airline, Ethihad Airlines, and Qatar Airways are available via Dubai, Abu Dhabi and Doha.

b. Domestic

Oman Air connects on daily basis 1) once a day between Muscat and Khasab and 2) 3 times a day between Muscat and Salalah.

c. Land Transport

The road connections and conditions are quite acceptable. Additionally, signage and shady bowers at tourism attractions are well constructed. However, it is necessary to construct rest areas between those attractions where tourists should move for long distance. Tourists currently use toilet at fuel stations, but the conditions and capacity are limited.

4.3.Accommodation

The table below shows the latest number of accommodation in each governorate. The accommodation is located mainly in Muscat, while several investment and development projects are on-going, especially in Salalah of Dhofar Governorate, Doqum of Al Wusta Governorate, and Khasab of Musandam Governorate.

During high season, Oman has faced the shortage of accommodation. The shortage of the accommodation has also influenced on the rack rate of the accommodation. Some officials pointed out that the rate of the accommodation in Oman is relatively expensive since demand is higher than supply. It will be solved step by step after the completion of several projects.

It was observed that guests in 5 star accommodation made long queue due to the shortage of receptionist. It should be improved to provide proper services to guests.

Regarding the facilities, Japanese prefer to have bathtub in the room. In case of shower only, it is recommendable to equip shower curtain.

Table 10: Accommodation in Oman

Governorate	5 star	4 star	3 star	2 star	1 star	Camp	Total
Muscat	7	11	12	29	56	-	115
Dhofar	1	2	4	6	15	-	28
Al Buraimi	-	-	1	3	21	-	25
Al Dhahira	-	-	-	2	1	-	3
Dhakhiliya	-	-	3	3	15	3	24

Al Wusta	-	1	-	1	6	-	8
North Sharqiya	-	-	1	-	8	10	19
South Sharqiya	-	-	-	7	16	3	26
Al Batina	-	1	2	5	10	-	18
South Al Batina	-	2	1	-	5	-	8
Musandam	1	2	-	2	1	-	6

Source: MOT

4.4.Travel Agencies / Tour Operators in Oman

The MOT provides same license for travel agency and tour operator, though it differentiates them. A travel agency is a company who is a member of International Air Transport Association (IATA) and issues tickets by authorized staff while a tour operator deals with necessary arrangement for outbound and inbound visitors. Some companies fulfil both functions. The number of companies in each governorate listed below includes both travel agencies and tour operators.

- Muscat:230 Companies
- Dhofar: 35 Companies and 20 branch offices (Head Quarter in Muscat)
- Al Buraimi & Al Dhahira: 29 Companies
- Dhakhiliya & Al Wusta: 16 Companies
- North & South Sharqiya: 24 Companies
- North & South Al Batina: 37 Companies
- Musandam: 23 Companies

4.5.Other Related Services

a. Tourist Guide

An issue of licensing tourist guides was found through the series of discussion with private sector. The regulation prohibits escorting tourists without guide license, however tour operators suffer from the shortage of tourist guides who speak non-English languages. For instance, Italian market is emerging, but few licensed guides are available.

In case of Salalah in Dhofar, it received charter flights from Scandinavia once a week during the period from November to March. The MOT negotiated with the Ministry of Manpower to issue tentative permission for guides who had stayed to arrange the programs for the coming tourists by charter flights. It was also better for tourists to have guides who speak their own language. The language barrier strongly applies for Japanese tourists.

It is necessary to take some measures to improve the situation of guide permission, taking into the consideration with visitors' satisfaction.

b. Sports Activities Companies

The following number of companies is registered in the MOT as sports activities companies. The diving centre is the most popular and offers not only diving services but also marine activities such as snorkelling, dolphin watching, and whale watching.

- Muscat:42 Companies
- North & South Sharqiya: 5 Companies
- North & South Al Batina: 4 Companies
- Musandam: 22 Companies

4.6.Community Involvement

In order to extend visitors' length of stay and consumption, it is necessary to diversify tourism activities and offer attractive programs to visitors. Authentic Arabian atmosphere is still remaining in Oman, however, the opportunities to feel it are not often encountered. For instance, buffet style lunch at hotel can be replaced by local restaurant that offers tasty Omani food. It is important to establish a mechanism to involve local people with tourism activities to offer various experiences, which will contribute to enhance small and medium enterprises (SMEs).

4.7.Environmental Sensitivity

As the result of promoting domestic tourism, Omani has started to travel within Oman. People's activities at the site generate waste, which should be treated properly. It is important to promote domestic tourism at the same time to raise awareness of environmental sensitivity.

5. Findings on Current Conditions of Marketing Activities

5.1.General Marketing Activities

Current marketing and promotional activities have been implemented by 10 representative offices located shown in the left list below. 9 representative offices are managed on contract base with local marketing company and the office in France is managed directly by the MOT. Each company develops and submits next year's marketing plan and budget by August or September to get the final permission for next year.

The right list shows the international travel fair where the MOT decided to join in 2014. In addition to joining travel fairs, familiarization (FAM) trips inviting tour operators, travel agencies and press, road shows, and exhibition are implemented as promotional activities.

Table 11: Representative Offices and Travel Fairs 2014

	Country	Management
1.	UK & Ireland	Outsource
2.	Germany	Outsource
3.	France	Direct
4.	Italy	Outsource
5.	Scandinavia	Outsource (Germany)
6.	Netherland	Outsource
7.	Belgium	Outsource
8.	GCC (Dubai)	Outsource
9.	India	Outsource
10.	Australia & New Zealand	Outsource

Representative Offices

	Country (City)	Travel Fair (Month)
1.	India (New Delhi)	SATTE (Jan)
2.	Australia (Melbourne)	Aime (Feb)
3.	Germany (Berlin)	ITB (Mar)
4.	UAE (Abu Dhabi)	GIBTM (Mar)
5.	USA (Miami)	Cruise (Apr)
6.	KSA (Riyadh)	Travel (Apr)
7.	UAE (Dubai)	ATM (May)
8.	Germany (Frankfurt)	IMEX (May)
9.	France (Paris)	Top Resa (Sep)
10.	Italy (Rimini)	TTG (Oct)
11.	UK (London)	WTM (Nov)
12.	Spain (Barcelona)	EIBTM (Nov)
13.	France (Cannes)	Luxury (Dec)

Travel Fair 2014

5.2.Promotional Tools

a. Promotional Materials

The table 125-2 shows the list of promotional materials which have already published and the table 135-3 shows the list of upcoming materials. Since all the materials are published in English, next step will be translated to other languages. It is not necessary to translate all the materials, but to select specific materials according to the needs of target market.

Table 12: Existing Promotional Materials

No.	Materials		Region	Language
1.	Map	Sultanate of Oman Tourist Map	National	English
2.		Muscat Map	Muscat	English
3.		Al Jabal Al Akhdar Tourist Map	Dhakhiliya	English
4.	Booklet	Marhaba Oman	National	English
5.		Muscat Tourist Guide	Muscat	English
6.		Mutrah Souq	Muscat	English
7.		Al Jabal Al Akhdar	Dhakhiliya	English
8.		Marhaba to Dhofar	Dhofar	English
9.		Jabreen Castle	Dhakhiliya	English
10.		Khasab Castle	Musandam	English
11.	Audio	Beauty has an Address	National	English
12.	Visual	Wildlife & Sceneries	National	English

Table 13: Upcoming Promotional Materials

	Materials	
1.	Booklet	Muscat
2.		Musandam
3.		North Sharqiya
4.		South Sharqiya
5.		North Batina
6.		South Batina
7.		Buraimi
8.		Al Wusta
9.		Dhahirah
10.		Dakhiliya
11.		Geological Tourism Leaflet
12.		Adventures leaflet

b. Tourism Portal Site

The tourism portal site of the MOT (http://www.omantourism.gov.om) has been managed by the Department of Information Technology, Directorate General of Planning, follow-up and Information so far. Currently, the Directorate General of Tourism Promotion is under discussion with them to transfer the management of the website.

During the discussion, it is said that a tender will be open to choose PR Company to improve digital communication including the website. The information of the website should be properly arranged

and website itself be improved as soon as possible to attract potential tourists and provide proper information efficiently and effectively.

5.3.Promotional Activities in Japan

a. Events in Japan

According to the Embassy of the Sultanate of Oman in Japan, the following events are regularly conducted to introduce Oman to Japanese.

- Cooking Class by Ambassador's Wife at the Residence
- Charity Bazar (Once a year)

In addition to the above mentioned events, other several events such as lectures about Oman, investment seminar, and cultural exchange events are organized as ad hoc, in cooperation with friendship associations such as Japan-Oman Society and Japan Oman Club.

b. Information Source in Japanese

Information source in Japanese is quite limited. One guidebook called "Chikyu no Aruikikata" offers the information in the part of guidebook "Dubai and Countries in the Arabian Peninsula". The information is available through the following websites.

- Japan-Oman Society: http://japan-omansociety.com/
- Japan Oman Club: http://www.omanclub.jp/
- Oman Navi: http://beitou.web.fc2.com/index.html

5.4.Profiles of Japanese Travellers

The brief profiles of Japanese travellers are shown below. The tourism products and packages should be arranged, considering the profiles of travellers.

Table 14: Profiles of Japanese Travellers

Attributes of Japanese Travellers	Interest of Japanese Travellers
• Limited holiday period • Japanese speaking Guide • Travel in package tour (especially, seniors) • Safety conscious • Neat toilet	• Famous places such as world heritage sites • Natural Sceneries • Beach / marine activities • Cultural experiences • Souvenirs • High service expectation • Food service and preference for fine restaurants

5.5.Travel Agencies / Tour Operators in Japan

The following travel agencies / tour operators in Japan currently deal with tour packages to Oman.

Table 15: List of Travel Agencies / Tour Operators in Japan

	Name of Company	Conditions		Destination
1	Japan Travel Bureau (JTB)	6 days \409,000	FIT	Muscat 1 night and Nizwa 1 night (Luxury Hotel)
2	Japan Travel Bureau (JTB)	6 days	Group	Same as Above

		\409,000		
3	Club Tourism International Inc. (CTI)	5 days \369,000	Group	Muscat 2 nights including Nizwa excursion
4	World Air-Sea Service Co., Ltd.	7 days \225,000	Group	Muscat 3 nights including Nizwa excursion
5	Eurasia Travel Co., Ltd.	8 days \378,000	Group	Muscat, Salalah, and Nizwa
6	Saiyu Travel Co., Ltd.	8 days \398,000	Group	Muscat, Salalah, Nizwa, and Khasab
7	Tours' Express Inc.	9 days \369,000	Group	Nizwa 2 nights, Muscat 1 night, and Salalah 2 nights
8	Air Cristal	7 days \383,000	FIT	Muscat 2 nights including Wahiba desert, Sur, and Nizwa excursion
9	Five Star Club	6 – 8 days \175,000 - \235,000	FIT	1. Wahiba Desert and Muscat 2. Jabel Shamz, Nizwa and Muscat 3. Salalah and Muscat 4. Sur and Muscat 5. Salalah, Nizwa and Muscat

6. Recommendations

6.1.SWOT Analysis of Oman as Tourism Destination for Japanese

The following SWOT analysis summarizes the findings mentioned in the Chapter 4 and 5.

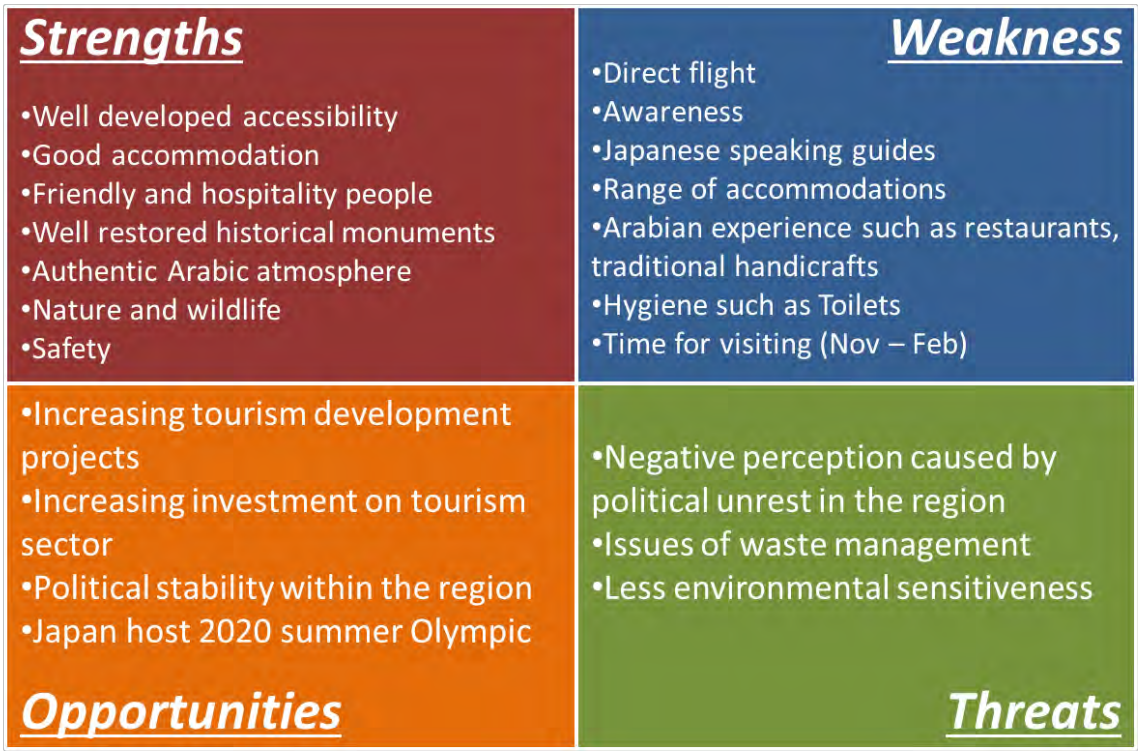


Figure 1: SWOT Analysis

6.2.General Directions of Marketing Strategy

a. Cultural Markets

It is proposed to target Japanese seniors over sixties who tend to travel in group tour with tour leader through travel agencies, as a primary market to penetrate into Japanese market. The potentials of this segment were presented in the Chapter 3. They are interested in world heritage sites and cultural assets such as museums, villages and souq. Tourism products to target them should be arranged to satisfy their curiosity.

b. Natural Markets

The next target will be Japanese who reside in GCC and European countries. Although market research is essential to know their needs in detail, it is assumed that they may be interested in nature to enjoy beach, coral reefs, marine activities, and other recreational activities, because they may be on the life stage of middle ages with children.

c. Niche Markets

It is expected that awareness of Oman will be raised in Japanese market through activities of approaching the above markets. To tackle niche markets who have specific interest such as diving, bird watching, and cruising, detailed market research is necessary, especially to know channels and medias to reach those specific group.

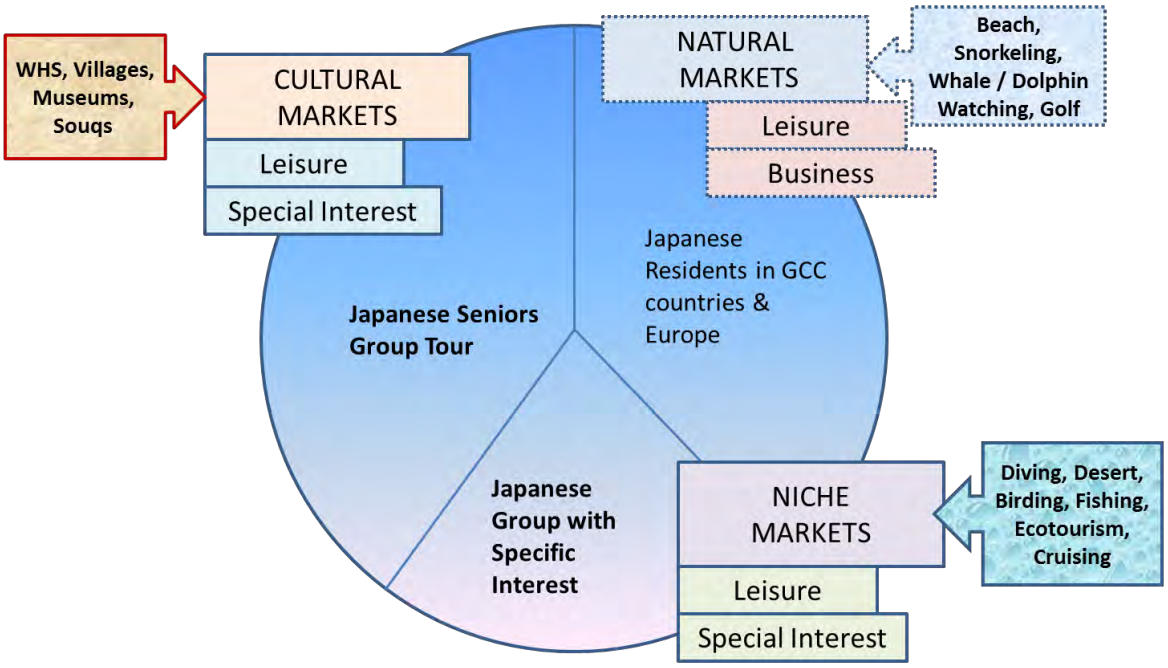


Figure 2: General Directions of Marketing Strategy

6.3.Steps to Develop Marketing Strategy

The following steps to develop marketing strategy are proposed.

1. Increase availability of information in Japanese on website
2. Develop promotion materials in Japanese
3. Conduct marketing research on Japanese residents in Dubai and Europe
4. Develop marketing strategy for Japanese residents in Dubai and Europe (in cooperation with representative office)

5. Create awareness towards Japanese residents in Dubai and Europe
6. Create awareness in Japan
   - Join JATA Tourism Expo 2015
   - Conduct Oman seminar to tour operators / travel agencies
   - Conduct FAM Trip
   - Conduct cultural events to introduce Oman in Japan in collaboration with Embassy of Oman in Japan
7. Establish a representative office in Japan
8. Conduct marketing research in Japan
9. Develop detailed marketing strategy

6.4.Timeline

The proposed timeline is shown in the table below.

Table 16: Timeline to Develop Marketing Strategy

		Proposed Activities	2015				2016			
			1st	2nd	3rd	4th	1st	2nd	3rd	4th
General	1	Increase availablity of informaion in Japanese on website								
	2	Develop Promotion Materials in Japanese								
Regional	3	Conduct marketing research on Japanese residents in Dubai and Europe								
	4	Develop marketing strategy for Japanese residents in Dubai and Europe								
	5	Create awareness towards Japanese residents in Dubai and Europe								
Japan	6	Create awareness in Japan								
		・Join JATA Tourism Expo 2016								
		・Conduct Oman seminar to tour operators / travel agencies								
		・Conduct FAM Trip								
		・Conduct cultural events to introduce Oman in Japan in collaboration with Embassy of Oman in Japan								
	7	Establish a representative office in Japan								
	8	Conduct marketing research in Japan								
	9	Develop detailed marketing strategy								

6.5.Other Recommendations

a. License

Communication and correspondent in Japanese are crucial for Japanese tourists as well as Japanese tour operators. It is recommended to take measures such as special permission for licensing guides who speak non-English languages including Japanese.

b. Facilities

As it is mentioned in Chapter 4, it is better 1) to improve quality of exhibition and 2) to develop rest areas between tourism destinations. For instance, Bahla fort is one of the World Heritage Sites in Oman. It is rehabilitated well, however, no exhibitions are available. It should be improved to satisfy visitors' expectations.

c. Education

It is recommendable 1) to raise awareness of tourism and environmental sensitivity for local people and 2) to review educational institution to provide properly trained manpower to tourism sector in order to encourage employment. Regarding the first point, an issue of the shortage of environmental sensitivity was mentioned in the Chapter 4. Environmental degradation will cause negative impacts on tourism resources in near future. As for the second point, it was not clearly investigated through this research, however, there may be gap between current education and necessary human resource.

Table 17: Components of Marketing Strategy (Sample)

Marketing Strategy Includes:

- Market Analysis
- Targeted Segment
- Attributes of Targeted Segment (External)
- Interest of Targeted Segment (Internal)
- Sample Itineraries (Product Portfolio)
- Channels to Access to Targeted Segment
- Promotional Activities to Attract Targeted Segment

Samples:

Attribute of Targeted Segment (External)	Interest of Targeted Segment (Internal)
• Join group tour booked through travel agencies • Collect information through website, travel agencies' pamphlet	• World Heritage Site • Museums • Villages • Local markets • Local cuisine • Local dance & music

Sample Itinerary		
Day 1	PM	Leave Japan
Day 2	AM PM	Arrive at Muscat Visit Mautrah Souq and Bait Al Zubeir
Day 3	AM PM	Visit Sultan Qaboos Grand Mosque Fly to Salalah
Day 4	Full Day	Visit Ubar / Shisr
Day 5	AM PM	Visit Ali Balid Archaeological Park and Frankincense Museum Fly back to Muscat
Day 6	AM PM	Drive to Al Hamra and visit Misfat village Visit Bahla Fort and move to Nizwa
Day 7	AM PM	Visit Nizwa Fort , Nizwa market and Falaj Drive back to Muscat and fly back to Japan
Day 8	PM	Arrive at Japan

Channels to Access to Targeted Segment	Promotional Activities
• Contact with travel agencies which have clients of over 60s to diversity their products, – JTB – Club Tourism – World Air Service – Eurasia – Saiyu Travel – Tours' Express – Others	• Join JATA Tourism EXPO – International Business Meeting • Organize Oman seminar • Organize FAM Trip • Access media to have documentary film

7. Concept of Further Cooperation

The Ministry of Environment and Climate Affairs (MECA) has been currently developed the terms of reference (TOR) to request technical cooperation from JICA to develop Marine Environment Conservation Strategy 2040.

One of the components of the TOR will be as follows;

- Pilot project(s) utilizing Ecologically Biologically Significant Areas (EBSA) sites (e.g. Eco-tourism and Environment education), in cooperation with Ministry of Tourism
  - Identify the EBSA site in consultation with the Ministry of Tourism (e.g. Al Kheiran Coast Line)
  - Develop plan for a project for sustainable utilization of the area, including community involvement
  - Implement the project (e.g. walk path, exhibitions, visitor centers, environmental education program, etc.)
  - Develop monitoring and evaluation plans of the project

Since this component is closely related to the responsibility of the MOT and other organizations, such as Public Authority of SMEs Development, the possibility to implement under interministerial cooperation will be sought for.

Additionally, the following issues have emerged through the research.

- Ecotourism is implemented among several organization such as MOT, MECA and Ministry of Royal Office.
- Less community involvement with tourism activities would limit opportunities to contribute to SMEs development.
- The shortage of environmental sensitivity would degrade the value of natural resources in future.

Considering the above mentioned conditions, the following draft of project framework for future cooperation between JICA and Oman has presented.

Table 18: Presented Project Framework (draft)

＜Overall Goal＞
The established mechanism of EBSA site is functional.
＜Project Purpose＞
The mechanism of managing EBSA site is established.
＜Output＞
Output 1: Identify the pilot EBSA site in consultation with the Ministry of Tourism (e.g. Al Kheiran Coast Line).
Output 2: Develop plan for a project for sustainable utilization of the area, including community involvement.
Output 3: Implement the project according to the plan.
Output 4: Develop monitoring and evaluation plans of the project.

＜Activities＞
Activities 1 1-1 Define ecotourism 1-2 Develop ecotourism guideline 1-3 Develop criteria to utilize EBSA as ecotourism site 1-4 Set up rules and regulations of pilot EBSA site/s
Activities 2 2-1 Designate ecotourism development area 2-2 Agree with organizational framework (e.g. ecotourism committee) to manage the site 2-3 Plan necessary small-scale infrastructure and program (e.g. walk path, exhibitions, visitor centers, toilets, ecotourism and environmental education programs) to receive visitors 2-4 Plan necessary equipment and human resource to operate the site properly 2-5 Identify necessary training areas such as management, community involvement framework, ecotourism guides, and etc.
Activities 3 3-1 Set up ecotourism committee among stakeholders 3-2 Organize regular committee meeting 3-3 Supervise construction of small-scale infrastructure 3-4 Support to procure necessary equipment and human resource for proper operation of the site 3-5 Support to develop ecotourism and environmental education activities / programs 3-6 Implement training programs
Activities 4 4-1 Select items to be monitors (e.g. influence on natural environment, satisfaction of ecotourism activities, social and economic impact, local awareness and etc. 4-2 Set up verifiable quantitative and qualitative indicators 4-3 Decide methodologies to obtain necessary measures 4-4 Implement regular monitoring and evaluate the result 4-5 Review the rules and regulations according to the evaluation

JICA is in the process of developing a new scheme for technical cooperation with 'developed' countries, including the GCC countries.

Once the areas of cooperation have been informally agreed upon between MOT and JICA, in order to materialize MOT-JICA technical cooperation, an official application for cooperation needs to be submitted by MOT through the Ministry of Foreign Affairs, Oman to the Ministry of Foreign Affairs, Japan (via the Embassy of Japan in Oman). When the application is accepted by the Ministry of Foreign Affairs, Japan, an International agreement (or an exchange of Note verbal) will be entered into by the two Ministries of Foreign Affairs.

The proposed cost sharing mechanism of this new scheme is still under discussion within JICA and the Ministry of Foreign Affairs Japan. The cost sharing mechanism should be negotiated between MOT and JICA once the areas for technical cooperation have been decided between the two parties.

Annex

[Source]: Market Insight 2013, published by Japan Travel Bureau Foundation, July 2013

Survey Sample: 2,400 (at random), Oman is included in "Others" of Destination

Table 19: Ratio for Number of Tourists per Destination

	2000	2002	2004	2006	2008	2010	2011	2012
Europe	18.9%	20.3%	19.5%	19.9%	17.9%	18.0%	18.4%	19.1%
Northeast Asia	19.8%	23.6%	24.4%	27.8%	31.5%	32.8%	33.5%	30.5%
Southeast Asia	15.6%	16.7%	15.0%	15.0%	16.4%	14.7%	16.0%	17.2%
North America	12.3%	8.2%	8.4%	7.7%	7.1%	7.7%	6.6%	7.2%
Oceania	4.3%	5.2%	5.1%	4.2%	3.2%	3.0%	2.4%	2.4%
Hawaii	13.3%	12.0%	11.9%	10.0%	9.4%	9.3%	9.7%	10.5%
Guam / Saipan	11.1%	9.5%	10.9%	9.4%	9.0%	8.7%	7.9%	8.3%
Others	4.7%	4.5%	4.8%	6.1%	5.5%	5.8%	5.4%	4.9%
Short Haul	46.5%	49.8%	50.3%	52.2%	56.8%	56.2%	57.5%	56.0%
Long Haul	53.5%	50.2%	49.7%	47.8%	43.2%	43.8%	42.5%	44.0%

*Short Haul refers to Northeast Asia and Southeast Asia, Guam / Saipan.
While long haul refers to other destination.

Table 20: Travel Expenditure by Gender & Age Group (2010 – 2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Less than JPY 100,000	23.7%	21.4%	25.7%	21.8%	20.8%	30.6%	19.8%	22.2%	28.0%	17.1%
JPY 100,000 to JPY 199,999	34.2%	33.6%	34.0%	33.6%	28.3%	34.9%	34.6%	35.4%	32.1%	27.3%
JPY 200,000 to JPY 399,999	29.9%	30.7%	29.5%	32.0%	31.2%	27.2%	33.7%	30.1%	27.8%	35.2%
Over JPY 400,000	12.1%	14.4%	10.9%	12.7%	19.7%	7.2%	11.8%	12.3%	12.2%	20.3%
Averate (unit: JPY 10,000)	21.9	22.1	19.6	21.9	25.6	18.5	20.9	20.6	19.9	25.0

**JPY 100,000 = about OMR 336 as of November 6, 2014

Table 21: Travel Expenditure by Destination (2010 – 2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
Less than JPY 100,000	2.6%	47.0%	19.6%	1.5%	5.4%	3.7%	26.7%	1.3%
JPY 100,000 to JPY 199,999	13.8%	38.3%	44.6%	23.2%	17.0%	29.6%	47.4%	20.3%
JPY 200,000 to JPY 399,999	50.3%	12.1%	29.9%	49.1%	51.4%	47.6%	21.2%	48.6%
Over JPY 400,000	33.3%	2.5%	5.9%	26.2%	26.3%	19.1%	4.6%	29.9%
Averate (unit: JPY 10,000)	35.3	12.0	17.7	31.8	31.8	28.2	15.0	33.6

**JPY 100,000 = about OMR 336 as of November 6, 2014

Table 22: Length of Stay by Gender & Age Group (2010 – 2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
1 - 3 nights	40.2%	38.3%	38.4%	40.0%	24.1%	45.9%	34.0%	39.0%	43.9%	22.1%
4 - 6 nights	41.6%	44.4%	42.3%	36.5%	34.8%	33.9%	44.5%	39.3%	30.4%	33.7%
7 - 10 nights	13.9%	13.9%	15.9%	19.2%	31.9%	16.2%	17.8%	16.7%	22.1%	37.3%
11 nights or more	4.3%	3.5%	3.4%	4.2%	9.2%	4.0%	3.7%	5.0%	3.6%	7.0%
Average	4.7	4.6	4.8	5.0	6.4	4.7	5.0	4.9	4.8	6.2

Table 23: Length of Stay by Destination (2010- 2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
1 - 3 nights	4.7%	72.5%	23.1%	4.9%	5.3%	6.7%	50.9%	5.0%
4 - 6 nights	25.9%	22.1%	54.2%	56.8%	64.2%	72.8%	45.9%	28.0%
7 - 10 nights	57.8%	4.0%	16.2%	26.1%	25.2%	17.1%	2.2%	54.2%
11 nights or more	11.6%	1.3%	6.5%	12.2%	5.2%	3.4%	1.0%	12.8%
Average	7.8	3.3	5.6	7.2	6.3	5.6	3.8	7.8

Table 24: Household Income by Gender & Age Group(2010 – 2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
10 million yen or more	21.1%	15.7%	28.6%	38.6%	15.3%	18.6%	13.5%	22.5%	34.7%	12.0%
7 to less than10 million yen	10.4%	19.0%	29.3%	26.2%	18.7%	18.3%	19.8%	25.6%	23.8%	13.9%
5 to less than 7 million yen	26.3%	37.1%	24.0%	18.7%	21.9%	17.8%	30.0%	23.9%	21.8%	22.6%
lee than 5 million yen	42.2%	28.2%	18.1%	16.6%	44.0%	45.3%	36.7%	28.0%	19.6%	51.5%

**JPY 5 million = about OMR 16,800 as of November 6, 2014

Table 25: Household Income by Destination (2010 – 2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
10 million yen or more	20.4%	19.8%	22.8%	25.3%	21.1%	25.5%	21.8%	17.0%
7 to less than 10 million yen	20.9%	20.6%	19.6%	21.7%	19.5%	22.1%	24.6%	17.6%
5 to less than 7 million yen	23.0%	24.6%	21.2%	22.8%	29.8%	24.0%	24.7%	25.1%
less than 5 million	35.6%	35.0%	36.4%	30.2%	29.7%	28.4%	28.9%	40.2%

**JPY 5 million = about OMR 16,800 as of November 6, 2014

Table 26: Travel Arrangement by Gender & Age Group (2010 – 2012)

		Male					Female				
		20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Booking via travel agency	Full Package	13.6%	10.5%	7.1%	11.0%	34.6%	12.0%	12.4%	11.3%	18.8%	42.4%
	Package (free + Skelton)	52.7%	48.3%	43.0%	46.3%	43.6%	65.6%	56.9%	50.0%	54.8%	41.0%
	Dynamic Package and custom-made travel	20.4%	28.4%	33.2%	31.5%	13.6%	15.0%	20.7%	24.0%	17.3%	9.8%
Direct Booking		13.4%	12.8%	16.6%	11.2%	8.2%	7.4%	10.1%	14.7%	9.1%	6.8%

Table 27: Travel Arrangement by Destination (2010 – 2012)

		Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
Booking via Travel Agency	Full Package	51.2%	8.3%	10.3%	13.7%	21.7%	6.4%	3.6%	52.3%
	Package (free + Skelton)	18.0%	61.6%	47.3%	35.4%	53.2%	63.5%	80.3%	27.9%
	Dynamic Package and custom-made travel	22.2%	19.8%	29.5%	33.7%	13.5%	17.4%	9.6%	12.1%
Direct Booking		8.6%	10.2%	12.9%	17.2%	11.6%	12.8%	6.5%	7.7%

Table 28: Information Source by Gender & Age Group (2010 – 2012)

	Male					Female				
	20 - 29	30 - 39	40 - 49	50 - 59	Over 60	20 -29	30 - 39	40 - 49	50 - 59	Over 60
Travel agencies	41.2%	29.9%	19.2%	25.8%	26.7%	37.7%	26.4%	19.5%	20.2%	20.2%
Travel agency pamphlets	35.9%	32.7%	27.8%	38.9%	54.4%	37.6%	38.9%	37.4%	45.9%	61.9%
Travel guidebooks	40.8%	52.3%	50.0%	48.2%	55.4%	58.4%	61.1%	56.5%	55.3%	55.2%
Internet	73.0%	80.1%	86.6%	78.8%	78.3%	71.5%	85.7%	84.6%	82.8%	74.9%
Relatives and friends	16.6%	8.8%	11.0%	6.3%	6.2%	17.2%	19.4%	15.3%	13.8%	8.7%
Media	11.0%	7.5%	11.5%	10.1%	12.5%	9.0%	11.7%	14.5%	14.8%	16.3%
Airline and railway companies	15.7%	9.5%	15.7%	12.1%	9.8%	6.6%	11.1%	11.2%	10.4%	7.1%
National/regional tourist boards	12.6%	11.6%	20.1%	20.3%	26.8%	11.6%	23.3%	23.3%	20.9%	20.8%
Others	4.4%	2.4%	4.4%	4.6%	5.8%	2.6%	5.1%	5.1%	3.7%	4.3%

Table 29: Information Source by Destination (2010 – 2012)

	Europe	Northeast Asia	Southeast Asia	North America	Oceania	Hawaii	Guam/ Saipan	Others
Travel agencies	30.5%	23.8%	24.1%	22.6%	33.1%	32.1%	33.8%	28.3%
Travel agency pamphlets	51.8%	35.3%	36.1%	32.9%	52.5%	45.2%	43.8%	50.4%
Travel guidebooks	64.5%	49.1%	54.4%	55.5%	52.8%	53.7%	49.6%	57.9%
Internet	79.2%	77.5%	81.7%	83.8%	79.4%	80.3%	74.6%	78.1%
Relatives and friends	13.3%	11.6%	10.0%	12.5%	13.7%	18.0%	12.2%	10.1%
Media	16.2%	11.9%	7.9%	9.8%	7.8%	16.6%	8.7%	13.2%
Airline and railway companies	14.5%	7.6%	13.4%	14.6%	12.7%	13.4%	6.8%	10.1%
National/regional tourist boards	26.1%	15.6%	20.1%	18.2%	26.8%	17.5%	15.2%	22.6%
Others	5.6%	3.7%	3.7%	6.8%	6.3%	4.7%	3.1%	5.2%