

# Annual Project Report

[Alternatives to DDT usage for Anti-fouling Paint production in China]

[January 15, 2015]

## Project annual report rating

<i>Item rated</i>	<i>Rating provided</i>
Overall quality of the report	4
Does the project still fit with the Country office Strategic direction	4
Is the project still Relevant within the country setting	5
Sustainability	5
Efficiency: Financial performance (overall)	3
Efficiency: Financial performance (reporting period)	4
Effectiveness: Activity implementation (overall)	4
Effectiveness: Activity implementation (reporting period)	3
Partnership Effectiveness (if applicable)	4
<i>Total</i>	<i>36</i>

## Partnership Effectiveness

Very Good

## Overall assessment

Good

## Sustainability

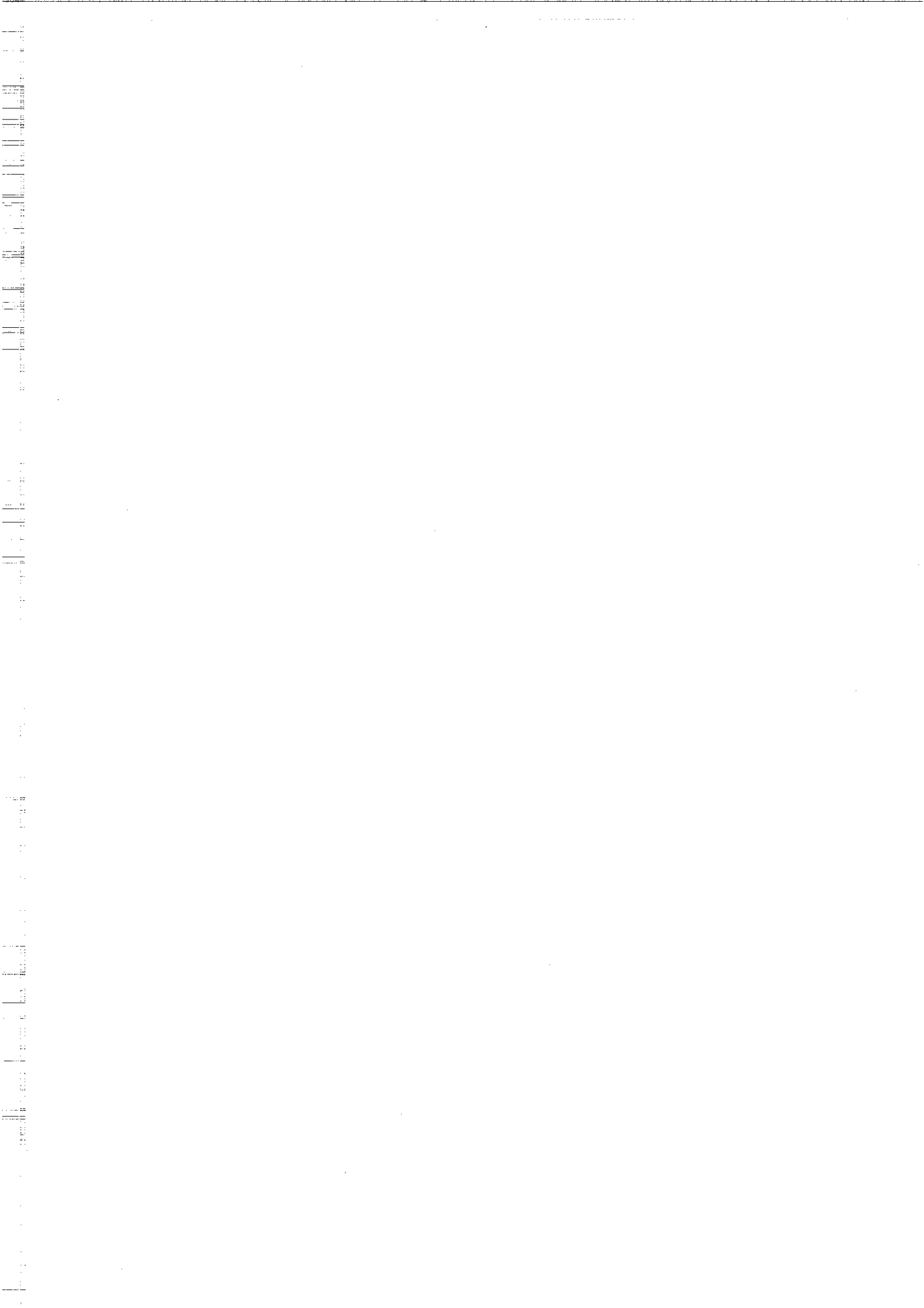
Good

## Management steps to be taken

Better management of the financial resources

Signed by 

Date Feb 15, 2015



# Annual Project Report

[Alternatives to DDT usage for Anti-fouling Paint production in China]

[January 15, 2015]

## Basic Project Information

Project Title: Alternatives to DDT usage for Anti-fouling Paint production in China	
UNDP Award ID	00045358
UNDP Project ID	00053562
Project Duration	November, 2007-December, 2014
Reporting Period	January to December 2014
Total Approved Project Budget	\$10,365,000
Participating UN agencies	N/A
Implementing Partners/ National collaborating agencies	Foreign Economic Cooperation Office, Ministry of Environmental Protection, China
International collaborating agencies	N/A
Cost-sharing third parties	
UNDP Contact officer	Mr. Wu Peng
Project website	<a href="http://afp.china-pops.org">http://afp.china-pops.org</a>

## Executive Summary

In the year of 2014, most major components of the project have been completed with measureable outcomes. First, capacity building for the laboratory on environmental risk assessment of antifouling paint has been established. Second, promoting a voluntary certification and labeling program in the antifouling paint sector, and 6 enterprises have received the certification of environmental label products. Third, cleaner production of ship hull surface processing and painting has been successfully demonstrated, and the achievement of environmentally sound management of hazardous antifouling paint in ship dismantling industry is of top high level in the world, and has passed science and technology achievement appraisal. Fourth, the project conclusion meeting was held in Beijing. As the last elimination project on initial persistent organic pollutants (POPs) pesticides, this successful story marked a total phase-out of eliminated and limited substances among 12 initial POPs under control of Stockholm Convention in China. Fifth, The terminal evaluation was carried out from 15 April to 30 June 2014. Overall project implementation evaluation result of "satisfactory" was concluded in the final evaluation

report.

To make full use of the ten year anniversary of implementation of Stockholm Convention in China, a series of communication products were developed and online events were conducted to enhance the public awareness of POPs/Stockholm Convention and China's relevant achievements.

Top international consulting firm were involved to provide in-depth training for the REACH policy in Europe and for the enterprises to conduct technology transfer.

With the project approaching the end, the focus of the project implementation shall be put on the finalization of all project activities and distribution and dissemination of project lessons and experience.

## 1. Background

### Development Context

China has 300,000 fishing ships widely distributed along its 18,000 km coastline, which consume 10,000 MT antifouling paints annually. Approximately half is DDT based paint and half organotin-based paint. About 250 MT DDT is used for production of DDT based antifouling paint per annum. As of 2002, the accumulative total of DDT used for this purpose since 1950s has reached 10,000 MT. China began to limit DDT usage in all related sectors after China acceded to Stockholm Convention in 2002. From 2002 to 2005, DDT used for antifouling paint production has seen a decrease, but still totalled a cumulative 4,000 MT.

Rapid industrial and agricultural development in the coastal areas of China in the recent past has resulted in contaminant discharge into the sea in excess of regulatory limits. This has resulted in significant deterioration in the quality of coastal marine environment as well as reduction in species of economic fish and output and has had adverse effects on income and livelihood of the local fishing community. Results from monitoring study indicates that the quantity of some toxicants found in economic fish, including DDT, in the body of main economic fish species is increasing, even beyond related international regulatory limits. The sources of some of the toxicants have been corroborated to be from their usage in coating of boats and ships. With the entry of China into WTO, her marine product exports have had some constraints in international market because of their failure to meet the relevant Quality Safety Standards.

Coastal environmental quality monitoring from year 2000 to 2005 found residues of DDT and its degradation derivatives DDD and DDE, which are also persistent and toxic, in sea water and sediments. The concentration of DDT in the sediments in some areas exceeded Class I or II of marine environment quality standards limit. Cu in sediments was also found to exceed Marine Environment Quality Standards. Sediment is habitat to the benthics, e.g. *Meretrix meretrix* L., *Mactra quadrangularis* Deshayes, *Mytilus edulis*, and Oyster, whose quality will be directly influenced by the sediment quality. For instance, in

2004, monitoring results showed that DDT residue in seashell in coastal waters exceeded standard's limit. DDT and Cu are also detected to exceed standard in bred organisms in the coastal aquatic farms.

The excess DDT and Cu concentrations in sediment are directly related to their extensive usage in DDT and copper based antifouling paint. Use of DDT as a pesticide in agriculture was banned 20 years ago. DDT residues on land, soil, and food have fallen down to trace levels. Therefore, release of DDT from antifouling paint on fishing boats and ships can be considered a new and the main source of DDT found in marine environment.

DDT is listed in Annex B of Stockholm Convention. According to Article 3, Provision 1 of the Convention, the Parties shall limit the production and use of the chemicals listed in Annex B. The Acceptable purpose or specific exemption on production and use of DDT are limited to disease vector control and intermediate for production of Dicofol. DDT as an additive in production of antifouling paint is not considered a permitted use. According to Article 10 and 11 of the Convention, the parties shall encourage and develop activities to research, develop and monitor POPs and their alternatives as well as other potential POPs. As one of the actions in implementation of the Convention, China has listed DDT based antifouling paint into the recently issued list of products to be phased-out, annexed to The Guiding Directory for Industrial Restructure – 2005.

In cooperation with the United Nations Development Program (UNDP), a project titled Alternatives to DDT Usage in the Production of Antifouling Paint has been developed and got GEF Council approval on August, 2006, and GEF CEO Endorsement on July, 2007. The State Environmental Protection Administration of China (SEPA), through its Convention Implementation Office (CIO/SEPA), and the UNDP will be respectively the national executing agency and the international implementing agency of this project from November 2007.

### **Project Objectives and Strategy**

The project goal is to substitute DDT based antifouling paint by technically feasible, economically viable, and environmentally friendly alternatives. The binding objective of this project is to eliminate 250 MT DDT per year used for production of DDT based antifouling paints by converting to technically feasible, economically viable, and environmentally friendly alternatives. The prospective objective of this project is to establish a long-term mechanism to protect the marine environment from pollution of harmful antifouling systems by supporting China to sign International Convention on the Control of Harmful Anti-fouling Systems on Ships (the IMO Convention) based on the technologies, experience and instruments obtained from phase out of DDT antifouling paint.

The implementation timeframe is planned to be 5 years. In the first two years, technically and economically feasible technologies/alternatives will be selected through open bidding and ranking process for on-ship coating experiment as well as for selection of

manufacturing enterprises that possess strong technical capacity, competent management experience, and sound business development plans. Manufacturing sites will be prepared and equipment installed. Capacity will be built and policies providing enabling environment will be established. In the third and fourth years, production and promotion of the substitutes/alternatives in the market will be initiated and upscale. In the fifth year, results and experience will be summarized and compiled into reports, while at the same time the production and sales of the alternatives will be further consolidated. Communication with the public on POPs will be enhanced through innovative communication products with top news agency in China.

**Project Outcomes**

The major outcomes of 2014 include: (1) capacity building for the laboratory on environmental risk assessment of antifouling paint has been established, (2) 6 enterprises have received the certification of environmental label products, (3) the research methodology on environmentally sound management of hazardous antifouling paint in ship dismantling industry has passed science and technology achievement appraisal by Chinese Society for Environmental Sciences, (4) the project conclusion meeting was held in Beijing, (5) the terminal evaluation was carried out from 15 April to 30 June 2014. Overall project implementation evaluation result of "satisfactory" was concluded in the final evaluation report.

**Activities and Outputs**

**Activity 1.2 Establish and operation of a national expert team**

The contract with NTA has been completed in late September. An international CTA was contracted in 2014 to provide technical supports for the project, which has been completed in 31<sup>st</sup> May.

**Activity 2.2 Socio-economic baseline establishment surveys and environmental monitoring**

FECO commissioned SGS to carry out the sampling and analysis of DT, TBT, and copper concentrations in sea water, sediment, organisms, and air. The work of sample collection and sample analysis was completed in 2013. The results from the data analysis showed that the total concentrations of DT in sea water, sediment, and organisms decreased.

FECO has contracted China Green Enterprise Limited to carry out the project performance and impact assessment. The final assessment report was completed in early December. According to the five assessment criteria (relevance, effectiveness, efficiency impacts and sustainability), the project comprehensive performance assessment was rated as "success".

**Activity 2.3 Disseminate project information to the public**

According to the recommendation of terminal evaluation experts, FECO contracted China Green Enterprise Limited to build cross-platform website for the dissemination of project results beyond China. The procedure of contract signing was completed in early

September. Project achievements and publicity materials on POPs in English version released through the cross-platform website.

To make full use of the ten year anniversary of implementation of Stockholm Convention in China, a series of communication products were developed and online events were conducted to enhance the public awareness of POPs/Stockholm Convention and China's relevant achievements.

**Activity 3.4 Sustain DDT phase out by reducing the potential risk of TBT use in anti-fouling paint**

FECO held the acceptance meeting on laboratory capacity building of environmental risk assessment of the active substances in anti-fouling paint in late April in Shanghai. The work of undertaking units of Shanghai Academy of Public Measurement and Guangdong Detection Center of Microbiology passed the evaluation on the meeting. Under this subproject, the environmental risk assessment system of the active substances in anti-fouling paint was established. FECO applied to Chinese Society for Environmental Sciences for science and technology achievement appraisal. This achievement has passed science and technology achievement appraisal. The appraise committee agree on that the new developed assessment system meets the counterpart standard of EU, can definitely ensure all risky substance will be filtered out. The replication of the achievement in the country will benefit to enlarge the market share of new environmental sound alternatives, strengthen international competitiveness in the global market.

**Activity 4.2 Technology transfer promotion**

FECO commissioned Zhongchi (Beijing) Environmental Protection Development Co., Ltd. to promote technology transfer from the anti-fouling paint R&D community to the manufacturing industry for scale production and distribution to the user market. With the existing database at the project management team, the structured profiles for the antifouling technologies were created, including information about the technology holders and the compliance with relevant regulations. Through analysing the technological features, market prospect, investment scale, and production profits of the technologies, the present value of the future earnings of these technologies were objectively determined. The technology transfer from technology holder of Marine Chemical Research Institute Co., Ltd. to technology recipient of Zhejiang Yutop New Materials Co., Ltd. was promoted under the subproject. The monitoring plan based on the signed technology transfer contract was developed to monitor the actual contract implementation and a monitoring and evaluation report summarizing experience and lessons was complete by the end of the contract implementation.

**Activity 4.3 Produce, distribute and promote alternatives**

6 antifouling paint manufactures submitted their expressions of interests to FECO, and

applied for certification to China Environmental (Beijing) Certification Center. Up to the end of December 2014, 13 kinds of products of 6 enterprises have received the certification of environmental label products, including Rongcheng Hongyuan Chemical Ltd., Zhejiang Yutop New Materials Co., Ltd., Zhejiang Feijiang Coating Ltd., Shanghai Kailin Coating Manufacturing Plant, Shanghai Kaiyue Coating Ltd. and Marine Chemical Research Institute Co., Ltd. According to the incentive standard, 950,000 RMB were reimbursed upon 13 productions of 6 enterprises with successful certification.

**Activity 4.4 Identify levels of contamination and environmental risk assessment in DDT based anti-fouling paint production sites**

Field visits to Guangzhou and Weihai were conducted in order to inspect the progress of subprojects and guide them on both technical improvement and financial management. The work of Guangdong PMO passed the evaluation on the acceptance meeting held in middle of March in Guangzhou. The work of Shandong PMO passed the evaluation on the acceptance meeting held in early September in Weihai.

Zhoushan Changhong International Ship Recycling Co., Ltd. has been selected to implement the initiative for environmentally sound management of hazardous antifouling paint in ship dismantling industry in association with Zhejiang University. Through analysing the weakness of toxic antifouling paint waste management in ship dismantling industry, a demonstration plan on safe and environmentally sound resolution on toxic substances and antifouling paint management in the whole process of ship-dismantling were proposed. A trial practice and demonstration on the safe protection and environmentally sound waste management were conducted in Zhoushan Changhong International Ship Recycling Co., Ltd., provided a specific and feasible method to manage the anti-fouling paint waste in an environmentally sound way. The contractors summarized the demonstration experience and developed an operation manual on the safe protection and environmentally sound management of antifouling paint and related waste in ship dismantling industry.

This innovative achievement of methodology research on environmentally sound management of hazardous antifouling paint in ship dismantling industry is of top level in the world, and has passed science and technology achievement appraisal by Chinese Society for Environmental Sciences.

**Activity 5.1 Prepare publicity materials**

In order to promote public awareness of project accomplishment and summarize the risk assessment procedures established, the project video, book and professional magazine were made. The project video has been completed and played in project conclusion meeting. The project book and the professional magazine are going through final edits and will be completed in February and March of 2015, respectively. The book titled "framework and practice on environmental risk assessment of anti-fouling paint" was made with the help of the Energy and Environment team of UNDP and top-level international expert group. The book introduces the environmental assessment system on chemicals and is available for use by scientists, technicians and



practitioners. About 2000 books will be disseminated in 2015.

The professional magazine introduces the project background and status and development trend of AFP, summarises the project achievements and impacts. About 1500 special issues will be disseminated in 2015.

**Activity 5.2 Mobilize NGOs to conduct community based environmental education and awareness**

To commemorate the 10-year anniversary of Stockholm Convention and POPs programme in China, awareness-raising campaigns were carried out to improve people's knowledge on POPs and change their consumption behaviours. Those public campaigns were innovative in the way of using multi-platforms and creative forms to disseminate POPs-related information, which vitalized the topic of chemical pollution and transformed it to be more lively, approachable and acceptable to the public.

Cartoon icons were designed to the 23 POPs listed in Stockholm Convention, and a cartoon film was produced on basis of the icons.

English and Chinese POPs songs were composed featuring in educational and informative lyrics, which were effective to grab public's attention and bring up their awareness on POPs.

A mobile game, consisting of 5 components, was designed by integrating POPs cartoon icons and songs. This participatory public education approach enabled users to understand POPs by "learning by playing".

Furthermore, those smart awareness-raising activities were distributed via various online platforms to boost the exposure of POPs cartoon, song and other advocacy products. The distribution platform included some of the most influential and popular websites in China, for instance Sina, NetEase and Xinhua Agency. In addition, the distribution strategy also incorporated the summarization of the achievements and challenges of POPs programme in China.

**Activity 6.2 Launch field investigations and inspections to monitor and evaluate progress of project**

The project team supported by the NTA or evaluators has carried out a series of inspection missions to guide the implementation of major project activities:

- 1 Visit to Shanghai Academy of Public Measurement and Guangdong Detection Center of Microbiology
- 1 Visit to Zhoushan Changhong International Ship Recycling Facility
- 1 Visit to pilot shipyards demonstrating cleaner production in Guangzhou and Weihai

The project team has carried out a series of meetings to coordinate project activities. Annual project summary meeting was held in January to review the substantial progress over year 2013. 38 delegates from UNDP, FECO, all major subcontractors and project consultants participated the meeting. Delegates of all subcontractors delivered presentations on their work and outputs. Intensive discussions were made on important issues, such as further institutional cooperation on biocide risk assessment. Work plan in 2014 were also initiated by FECO and discussed among the participants.

In late May, a training workshop by PWC on POPs management capacity building was given to the project officers in FECO and received high praise. The workshop introduced a new way of learning from developed word on chemical/POPs management by involving top management consulting firms which is much more effective than traditional way. About 30 people participated in the training workshop. On October 16, the training workshop by PWC on POPs management capacity building was given to anti-fouling paint manufacturers. About 25 people participated in the training workshop.

On October 17, 2014, the project conclusion meeting was held in Beijing. As the last elimination project on initial persistent organic pollutants (POPs) pesticides, this success story marked a total phase-out of eliminated and limited substances among 12 initial POPs under control of Stockholm Convention in China. The delegate highly praised this project and said it was an excellent example on cross-government and cross-sector cooperation for developing and adopting environmentally friendly anti-fouling paints in China - as well as in the world. As many as around 70 representatives participated in the completion meeting, including FECO, GFSEC, UNDP, Ministry of Finance, Ministry of Agriculture, China Classification Society, China Coating Industry Association, China National Ship Recycling Association, PMO, anti-fouling paint manufacturers, ship building, repairing and scrapping yards, Xinhua News Agency and other news media.

**Activity 6.3 Prepare progress reports to monitor project progress and performance**

In order to evaluate the progress and quality of the project, 1 international consultant and 1 national consultant were hired to conduct terminal evaluation for the whole lifecycle of the project. The consultants did in-filed investigation and interviews during 15<sup>th</sup> April and 30<sup>th</sup> June of 2014. A 70-page terminal evaluation report was published in the September of 2014 to comment on project formulation, project implementation and project results. Recommendations and lessons learned were also proposed by the consultants to further improve the project and the performance of project staff.

**Activity 6.4 Conduct annual project audit**

The national audit team has taken routine audit over the project.

**Sustainability**

The sustainability of the project has been achieved through the following measures:

- The project has strengthened the policy and regulatory framework to enable and sustain the elimination of use of DDT and other harmful substances in the anti-fouling paint production, including product standards, testing method, risk assessment method, environmental labelling standard, ban, and other forms of administrative orders. These legislative pieces will continue to be effective for the sector after the completion of the project.
- The capacity of the competent authorities to enforce these legislative pieces has been built. Risk assessment requirements have been incorporated into the process of anti-fouling paint product certification. Intensive trainings have been organized by the competent authorities among the ship inspectors and the anti-fouling paint manufacturers. Meanwhile, two laboratories have been supported to build their

capacity for hazard and exposure assessment and risk characterization of antifouling paints.

- The industrialized production and distribution of alternatives by enterprises have taken a significant and increasing share of the market. Normally, enterprises have the motivation to continue the supply of such products to the market while keeping the price going down.
- There is strengthened awareness among the end users and the general public about the harms and benefits in choosing antifouling solutions. Consequently, this will force the suppliers to phase out polluting products and turn to the production of environmentally friendly ones.

The sustainability of the project impact will be continuously strengthened and consolidated by the widespread experience dissemination at the end of the project implementation.

### **Partnership Effectiveness**

At the national level, the project has worked closely with the competent authorities, namely China Classification Society and fishing vessel register for phasing out harmful antifouling systems and establishing risk management regime for antifouling biocides. China Coating Industrial Association has been involved in the mobilization of enterprises in the participation of the incentive program and alternatives selection campaign. The local EPB have been trusted to organize the pilot initiatives for cleaner production of ship hull surface processing and painting at shipyards for they have the mandate to control pollution within their jurisdiction.

### **Cross-cutting Issues**

Economic loss of aquatic product export will be incurred by the excessive DDT contents. The increase rate of aquatic product export in 2005 was reduced by 14% as compared with that in 2004, mainly due to the over residual of pesticides. While it is hard to quantitatively determine the impacts of DDT usage in antifouling paint to the aquatic product quality, it should be a significant factor due to direct release of DDT into coastal waters and accumulation in aquatic products.

The ultimate substitution of DDT usage in the production of antifouling paint depends on the private sector, including the suppliers and demanders of the antifouling products. From the very start, the project spends great efforts to mobilize the international manufacturers and domestic manufacturers to research, develop, and demonstrate their alternatives to DDT under the support of this project. International companies showed reluctance due to the low profit margin by manufacturing and selling short-life antifouling paints to fishing ships. However, the project has successfully attracted the domestic enterprises and research institutions. They are also committed to produce and sell the tested qualified alternatives under the incentive program. Awareness raising activities have been and will continuously be launched among the end users including the

### 3. Project Management and Oversight

shipyards and individual ship owners to pull the demand of alternatives.

#### Implementation status

Basically, most major components of the project have been completed with measurable outcomes. The work remained mainly includes: (1) the last two payments of contracts on book and professional magazine design, and (2) the payments of contract on crowded cabinet (3) remaining payments of communication and awareness-raising campaign. UNDP and FECO shall keep closer communication for ensuring the project activities as planned can be done efficiently and effectively.

#### Human Resource Management

The successful project implementation depends on the availability of a wide range of expertise from R&D of antifouling technologies, antifouling paint production and marketing, chemicals regulations and enforcement, and public relations. UNDP and FECO's platforms and networks of expert human resources have provided the project with sufficient choices of qualified experts in developing and delivering the knowledge and know-how to the industries, regulators, and the public.

#### Monitoring and Evaluation

The terminal evaluation was carried out from 15 April to 30 June 2014. The annual review meeting for 2013 was held on Jan 10th 2014 in Beijing, and the project conclusion meeting was held on October 17, 2014, in Beijing. In addition, the project management team has conducted regular inspection missions to major project sites as reported above in the part of Activities and Outputs.

#### Risk management

The major risks of the project lied in the failure in successfully selecting out a good number of alternatives for promotion. These risks have been overcome by the effective mobilization and involvement of the industry into the test platforms provided by the project.

#### Communication and advocacy

The project has implemented a holistic strategy for the communication and advocacy. In the first half cycle of the project, the emphasis has been put on the dissemination of information regarding the harms of DT and methods in researching and developing alternatives. In the second stage, the emphasis has been shifted to the choices of alternatives and benefits from using alternatives. With the project approaching the end,

the emphasis has been shifted to summary the project outcomes and disseminate the project lessons and experience. Regular visit to project site were made to monitor and evaluate the work prescribed in the contract. Publicity materials including video, a professional magazine and a book on risk assessment of anti-fouling paint biocides were made.

#### 4. Financial Management

Expenditure Vs. Approved project budget by source of funding		Source of Fund	Budget (Year)	Expenditure
		UNDP	2,032,344.61	1,657,274.50
		Government Cost-Sharing		
		Third Party Cost-Sharing		
		Other (please specify)		
		<b>Total</b>	<b>2,032,344.61</b>	<b>1,657,274.50</b>

Output	Activities	Source of Funding	Budget Description	Annual Budget (USD)	Annual Expenditure (USD)	Note
Output 1 Establish Project Management Institutions and Build Operational Capacity	1.2 Establishment and operation of a national expert team	71300	1.2.1 NTA's technical support to the project management	7,500	7,500	
		71200	1.2.2 Continue to keep CTA on the team for provision of technical support to the project management	10500.00	3500.00	
		71300		6500.00	3129.69	
		71600		33720.00	11359.14	
			2.2.1 Updated environmental monitoring of contents of DDT, TBT, and Cu in the environmental media and sea organisms at typical sites			
Output 2 Establish MIS and Website	2.2 Socio-economic baseline establishment surveys and environmental monitoring	72100	2.2.2 Carry out project impact and performance	9,600	9,600	
				4,974.45	4,974.45	



			assessment			
2.3 Disseminate project information to the public	72100	72100	2.3.1 Maintain and update the website	1,500	50,367.89	A cross-platform website was built to disseminate project outcomes
		72100	3.4.2 Institutional capacity building of China Classification Society for phasing out harmful antifouling systems including DDT and TBT	30,000	30,000	
		72100	3.4.3 institutional capacity building of fishing vessel register for phasing out harmful antifouling systems including DDT and TBT	13,000	13,000	
		71300		2,000	2,000	
		72100	3.4.4 Institutional capacity building for environmental protection sectors for establishing risk management of antifouling biocides	180,000	180,000	
Output 3 Establish or Revise Regulations, Standards, and Action Plan						
			3.4 Sustain DDT phase out by reducing the potential risk of TBT use in antifouling paint			
Output 4 Select alternatives and promote conversion						
			4.1 Test, select and acquire alternative technologies	32,826.4	31,275.07	
			4.2 Technology transfer promotion	157,790	179,375.97	

	4.3 Produce, distribute and promote alternatives	72100	4.3.2 Implement the second and third stage of the incentive program	27,070.00	154,748.33	
	4.4 Identify levels of contamination and environmental risk assessment in DDT based antifouling paint production sites	72100	4.4.2 Demonstration and replication of cleaner production at shipyards	80,000	80,000	
		72100		301,216.5	301,217	
			Prepare publicity materials of different forms	30000	29836.00	
		72100		17,000	2,355	
		72100	5.1.2 prepare publicity materials of different forms	81,573.6	29,728	
Output 5 Promote Awareness	5.1 Prepare publicity materials	72100	5.1.3 support the 3 local PMOs for coordination and communication of selected project activities	84,000	84,000	
		72100		130000.00	125021.73	
		72100		138000.00	67577.94	
	5.2 Mobilize NGOs to conduct community based environmental education and awareness	71300	5.2.1 Outreach and communication of project impacts	20000.00	23070.00	
		71300		24000.00	22590.00	
Output 6 Monitoring and evaluation	6.2 Launch field investigations and inspections to monitor and evaluate progress of project	71300	Daily project management, operation and monitoring, site visit	23,070	36,680.18	
		72200		9,868.01	8,763.05	



72400			15,500	4,601.59
72500			26,600	2,182.97
73100			10,900	5,505.58
74200			18,400	3,187.79
71600			32,000	23,012.46
74500			19,000	1,148.63,
75700			19,800	7887
75700			15000	16496.56
71200		Activity 6.3.1: Carry out independent terminal evaluation	30000.00	27283.33
71300			10000.00	10324.36
74500			67805.65	32317.15
72100			60000	27375.26959
	Activity 6.3 Prepare progress reports to monitor project progress and performance			
	Activity 6.4 Annual NEX audit (CNAO)		8000.00	5431.00
	<b>Total</b>		<b>2,032,344.61</b>	<b>1,657,274.50</b>

Remarks: The project activities have been intensively implemented in 2013, and most activities are completed with measurable outcomes. Since the completion deadline for some of the outcomes is December 31<sup>st</sup>, therefore the contract payment cannot be made in 2013, and this is the reason for underspending compared to the year budget.

N/A.

**6. Annex/es**

With the project approaching the end, the focus of the project implementation shall be put on the finalization of all project activities and distillation and dissemination of project lessons and experience. Communication and advocacy should also be strengthened to better summarize the project results and better share with other key stakeholders.

**5. Management recommendations**