



Minutes for Project Appraisal Committee Meeting - Alternative to DDT Usage in the Production of Antifouling Paint

Date: 18 September 2006
Venue: FECO Conference Room
Participants: See Annex I
Agenda: See Annex II
Presentation: See Annex III

Opening and Overview

- *Opening Remarks.* Brief opening statements were made by UNDP Senior Deputy Resident Representative, Ms. Alessandra Tisot and FECO Director General, Mr. Zhuang Guotai. Ms. Tisot emphasised that the project is contributing to the achievement of at least two of the Millennium Development Goals, poverty reduction and environmental sustainability, to the attainment of a Xiao Kang Society. It is noted that UNDP places high priority on supporting China in its compliance of the Stockholm Convention. Ms. Tisot also recognized the seniority of the participants at the PAC meeting and underlined FECO's cooperation and support to the program objectives. Mr. Zhuang spoke of the importance of building strong partners as the basis for developing such a successful program in only three months of PDF-B implementation. Mr. Zhuang also listed the difficulties when the project document was submitted to GEF Council for funding approval and appreciated the close team working relationship between UNDP and FECO colleagues.
- *Presentation.* Mr. William Kwan, Deputy Chief of MPU/EEG/BDP/UNDP New York, made a presentation which focused on the approval process of the PDF-B and Full Size Project (FSP), highlighting the intensive negotiation process in addressing comments raised by USA, Swiss and other countries during the GEF Council meeting to secure fund approval. He also briefed on the objectives and approach of the FSP, and the implementation mechanism. Ms. Han Wenya, Project Officer of CIO/FECO/SEPA, introduced the technical background information of the project and the briefed on the selection of three categories of alternatives.

Discussion – Key Points

- *Selection on Matured Alternatives and Financial Subsidy to Enterprises.* Mr. Cao Shuhuai, Sino Petroleum and Chemical Industrial Association: The alternatives to DDT-based antifouling paint must meet the requirements of matured technology and low cost. And the different application of antifouling paints on three kinds of ships, wooden boats, steel ships and commercial ships, should be taken into consideration when selecting the appropriate alternatives. The consultants or experts who will be

selected as the group members in evaluating alternatives should be qualified and very familiar with the painting industry. Serious attention must be paid to the mechanism of financial subsidy to painting factories. As the price of antifouling paint is directly based on the cost of raw material, it might be unstable and changed frequently.

Mr. William Kwan explained that during the FSP implementation, the test and evaluation of alternatives will be completed in the first year. And the qualified alternatives should meet at least three conditions, matured technology, environmental sustainability, of good quality and low cost to the end-users. Although the price of alternatives will be still higher than the DDT-based antifouling paint, the income of the end-user fishermen may also be increased as a result of better and more effective alternatives, therefore, the price gap will be gradually reduced. As the painting factories will definitely use the local raw materials and cheaper labour to produce alternatives, the cost of alternatives may be at a lower level that can be accepted by the end-users. He emphasized again that the alternatives should be of good quality and reasonable cost that can be easier for acceptance by the end-user fishermen.

- *Policy Enforcement and Selection on Matured Technology.* Ms. Ye Meiqi, Xiamen Shuang Rui Shipping Paint Co., Ltd: The news of successful approval on FSP project really encouraged painting factories to continue working on the alternatives. However, the enforcement of related policy and regulations on prohibiting production and distribution of DDT-based antifouling paint is very crucial for the successful implementation of this project. As the project will start from end of this year till 2010, the appropriate method is to set up time table for forbidding production and usage of DDT-based antifouling paint separated by two steps. It will be very helpful if the evaluation standard of alternatives can be agreed upon and announced on a formal conference so that the painting industry can easily follow-up accordingly. By considering the time constraint, the most qualified technology available at the current time should be considered as the first priority. As the growth period of ocean organisms is between May to October each year, if the project will spend more time on testing and evaluating semi-matured or even immature technology, it will miss the season and will definitely delay the implementation of project.

Ms. Yang Xiaoling, Division Chief of Programme Division V of FECO, emphasized that the alternatives must be effective, low cost and environmental friendly. The maturity of technology will be also taken into consideration.

Mr. William Kwan mentioned that an inception workshop of FSP is most probably planned to take in middle of November. During the workshop, the work plan and time schedule of project implementation will be discussed and finalized. All stakeholders including public and private sectors, academic, association etc. will be invited to the workshop and comments on time schedule and action plan will be solicited.



- *Selection on Alternatives.* Prof. Peng Bixian, Technical Institute of Physics and Chemistry of CAS: The three main requirements of alternatives which Ms. Yang mentioned before should be used as the basis principle for the selection of appropriate alternatives.
- *Capacity Building on National Execution, Monitoring on GEF Funding and Co-financing.* Ms. Xu Weiban, China GEF Office: China GEF office believes that FECO/SEPA is capable of national execution on GEF projects. As GEF Secretariat set up a Unit of monitor and evaluation, which mainly pays attention on the correct usage of GEF funding, China GEF Office will continue to work closely with UNDP as the implementing agency and FECO, the implementing partner on the fund related issues. The confirmation and application of co-financing will also be one of the targets for evaluation.
- *Final Objectives, PMO Structure and Midterm or Final Evaluation.* Mr. Lu Lei, ARR/Team Leader of UNDP: A questions on the final objective of FSP, is it only to reduce 1,000 MT of DDT-based antifouling paint or there are also other outstanding outcomes? The PMO structure which is shown in the project document is not very clear yet. Also, the purpose of midterm and/or final evaluation is not very concrete.

Mr. William Kwan answered that the outcome of the FSP is not only to reduce production of DDT-based antifouling paint by eliminating the 250 MT used annually as additives, but also to help China on its Convention compliance. As Chinese Government committed to phase out DDT by 2014, this project will provide strong support to the implementation of Stockholm Convention in China.

Mr. Jiang Feng, national consultant of PDF-B project, explained that the PMO structure which was shown in the document is only one part of the management organ. Actually it only lists the structure of coordination and management group. The participation of private sectors was explained in the text of document. And the purpose of midterm and final evaluation is to meet the requirement of GEF criteria and better monitor the progress of project implementation.

Closing Remarks

- *Ms. Alessandra Tisot:*
 - 1.) Policy Enforcement – The suggestion of policy enforcement on prohibiting production and distribution of DDT-based antifouling paint is very constructive.
 - 2.) Time Schedule of Project Implementation –The clear time table should be finalized through open discussion with all stakeholders.



- 3.) Selection of Alternatives – It is agreed that the qualified alternatives must have good quality and reasonable price. The standard of evaluation on alternatives should be clear, correct and considerate.
 - 4.) Monitor and Evaluation on usage of GEF-funding and Co-Financing – The importance of the monitor and evaluation is agreed and it should be taken into serious consideration and action.
- *Mr. Zhuang Guotai:*
 - 1) Action Plan – The action plan should be set up during the inception workshop.
 - 2) Selection of Alternatives – The alternatives must be industrialized, low cost and environmental friendly.
 - 3) Policy Legislation and Public Awareness – Both of the two parts are very important for the successful implementation of this project.
 - 4) Management Mechanism – CIO will establish a management mechanism with SEPA, other related ministries as well as the private sectors in order to better manage the project. A steering committee is also required.



Conclusions

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- *Project Document Revision.* The comments raised in PAC meeting will be collected and considered carefully. The final project document will be completed by end of October 2006.
- *Approval.* The project document is aimed to be approved in the middle of November 2006. A signing ceremony followed by an inception workshop will be held in the week of 13 to 17 November 2006.

Drafted by

Judy Li, Programme Associate, E&E

___Judy Li___ Date: 19 September 2006___

Cleared by

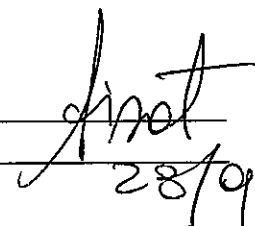
William Kwan, Deputy Chief, MPU

___William Kwan___ Date: 24 September 2006___

Approved by

Alessandra Tisot, Senior Deputy Resident Representative, Chairperson:

Date: _____


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Annex I

List of Participants

UNDP

Alessandra Tisot

Senior Deputy Resident Representative

William Kwan

Deputy Chief of MPU/BDP

UNDP New York

Lu Lei

Assistant Res. Rep / Team Leader

Strategic Planning & Management Support

Judy Li

Programme Associate

Energy & Environment

FECO-SEPA

Zhuang Guotai

Director General

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POPs CIO

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POPs CIO



Jiang Cheng
Project Officer
POPs CIO

China GEF Office
Xu Weiban

Academic Institutions

Liu Jianguo
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Peng Bixian
Professor, Technical Institute of Physics and Chemistry of CAS

Private Sector

Guo Yihong
Beijing Feitengli Science and Technology Consultation Company

Ye Meiqi
Xiamen Shuang Rui Shipping Paint Co., Ltd

Fang Changfu
Hangzhou Mailin Environmental Marine Coatings Co., Ltd

Wu Ming
Guangzhou Tianlang Coating and Chemicals Co. Ltd

You Jiye
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Annex II

PAC Meeting Agenda

- Venue:** FECO Conference Room
- Time:** 3:00 – 5:00 pm, 18 September 2006
- 3:00-3:30** Welcome and Opening Remarks by Ms. Alessandra Tisot, Senior Deputy Resident Representative, UNDP China; and Mr. Zhuang Guotai, Director General of FECO/SEPA
- 3:30-4:00** Overview of the project by FECO and UNDP
- 4:00-4:50** Discussion – Comments on the final version of programme document
- 4:50-5:15** Concluding Remarks, UNDP and FECO



“ALTERNATIVES TO DDT USAGE IN THE PRODUCTION OF ANTI-FOULING PAINT”

-Preparation and Implementation

PAC Meeting
Beijing, 18 September 2006



CONTENTS

- Brief Background
- Project Preparation
- Project Implementation



Brief Background (1)

- Annual production of DDT is 4,519 MT (2000-2003). 4% used as additive in anti-fouling paint production. DDT released to environment in anti-fouling paint product is approx. 150-300 MT
- Overall, China consumes 65,000 MT antifouling paint (AFP) annually. 35,000 MT is organotin based TBT (tributyltin) based with working life of 3 years. 35,000 MT is TBT-free self polishing used in ocean-going commercial ships



Brief Background

- 300,000 fishing ship along 18,000 km coastline consumes 10,000 MT of AFP, 5,000 MT (50%) produced with DDT used as additives
- At least 30 formulation plants in coastal cities produce DDT-based AFP

Project Preparation (1)



- > PDF-B prepared and submitted for Pipeline entry October 14, 2006 with \$295,000 GEF funding, and \$70,000 in-kind co-financing
- > GEF Secretariat review of November 2006 indicated unique situation of China as the ONLY country still consuming DDT-based AFP. Other issues raised include
 - limited scope of replication
 - mechanism for sustainability is clearly indicated
 - \$25 million project cost not supported by list of proposed project activities

Project Preparation (2)



- > Issues raised in GEFSEC review include
 - limited scope of replication
 - mechanism for sustainability is clearly indicated
 - \$25 million project cost (*original project cost*) not supported by list of proposed project activities
 - experience of phase out happened in other countries has not been taken into consideration
 - project concept has not been well thought out

Project Preparation (3)



- > UNEP comments include:
 - a wealth of experience to tap into before doing research in developing alternative products
 - More focus given in inception phase to involving existing production facilities and enterprises as they are key-players. Distributors should also be included
 - Role of fishermen in replacing DDT in the AFP is not clear
 - regulatory control should be developed as a matter of urgency
 - Incremental cost of \$25 million on the high side of replacing a 5% component of DDT

Project Preparation (4)



- > Bilateral GEF Secretariat and UNDP Project Review Meeting took place 14 November 2005 to discuss and clarify issues raised.
- > PDF-B document revised 28 November 2005 to address issues raised and to provide additional information, to reflect results of bilateral discussion
- > CEO approved pipeline entry December 6, 2005 (in letter dated January 5, 2006) and CEO approved \$295,000 PDF resources on February 7, 2006. Delay due lack of cash flow

Project Preparation (4)



- > To take advantage of GEF-3 resources, UNDP and CIO agreed to initiate PDF-B activities back in November 2005 with target of completion of FSP project document for submission to June 2006 Work Programme with deadline for submission of 24 March 2006.
- > Inception workshop, technical assessment workshop and Project proposal review workshop were held to ensure stakeholders involvement
- > Series of bilateral discussion between CIO and UNDP during PDF-B preparation process
- > FSP submitted with total budget of \$24.15 million: \$11.61 million GEF fund, \$3.75 GOC contribution and \$8.5 co-financing from private paint manufacturers

Outcomes of PDF-B Phase (1)



- > Data collection on production, distribution, consumption and use cost of DDT-based AFP
- > Research on current situation of technology and market of alternatives to DDT-based AFP
- > Selection and incremental cost analysis of available and economically feasible alternatives
- > Feasibility study on reduction of DDT-based AFP

Expected Outcomes of PDF-B Phase (2)



- > Assessment of social, economic, and environmental impacts on the proposed full size project
- > Draft monitoring and evaluation plan of project implementation
- > Completion of Full Size Project Document

FSP Project Approval Process (1)



- > No project submitted (including China AFP) was discussed at June Work Council in Washington DC early June 2006 due late posting of documentations by GEFSEC, and due uncertainty of GEF-4 resources
- > Documents posted in GEF website for review and comments by Council Members, for approval at a one-day Council Meeting ahead of GEF-4 Assembly in Cape Town
- > For China AFP, US, Swiss and France provided comments

FSP Project Approval Process (2)



US Comments

- GEF funding requested does not appear to be supported by the list of project activities
- Project document should provide a more extensive description of how other countries have phased out the use of DDT based AFP and how much money it cost
- A number of other countries (developed and developing) have phased out the products without the high expenses indicated in the China proposal, documentation on Incremental Cost should be improved

FSP Project Approval Process (3)



Swiss Comments

- Project should subsidize and promote already existing alternatives, instead of developing new alternatives that take time and resources. It may end us with a risk of lack of success in developing the alternatives or may not be developed successfully within the timeframe of project
- Many aspects of the proposal does not need GEF funding, they should be implemented by the Government of China itself

FSP Project Approval Process (4)



France Comments

- France supports the project which intends to help China phase out the use of DDT in AFP, nonetheless two issues should be clarified
- China naval (marine) painting private companies are key partners and co-financers of the project, main private partners are to be chosen through a competitive bidding process, how can co-financing be guaranteed?
- The project should ensure it reaches small family or individual business as much as big companies involved in AFP production

FSP Project Approval Process (5)



- Subsequent to receipt of these comments, CIO and UNDP discussed issues raised, reviewed project costs and developed strategies to address comments
- Based on UNDP's intensive bilateral discussions with the US State Department, indication of acceptable costs were discussed and areas of reduction of GEF grant are identified
- At final negotiation just prior to GEF Council Meeting 26-28 August, a reduction of \$905,000 was agreed between China, UNDP and US delegation

FSP Project Approval Process (6)



- Revised Total Project Budget is \$22,955,000 for FSP, with \$10,705,000 of GEF fund, \$3,750,000 of co-financing by Government of China and \$8,500,000 from private paint manufacturers
- Including PDF-B Phase, total project budget is \$23,320,000, with \$11,000,000 of GEF fund, \$3,800,000 of co-financing from Government of China, \$8,500,000 from private paint manufacturers, and \$20,000 in-kind contribution from UNDP

Project Implementation (1)



Objectives of Full Size Project:

- Reduce and eliminate annually 250 MT of DDT used as additives in the production of AFP by technically feasible, economically viable and environmentally friendly alternative
- Capacity building, policy formulation and enforcement
- Promote the local production, distribution and use of alternative products and promotion of production technology
- Public awareness and promotion of alternatives
- Implementation of a monitoring and evaluation plan

Project Implementation (2)



Project Approach: Through selection and comparison of different alternative products and technologies, establish scientific methods to select suitable alternatives to phase out use of DDT-based AFP

1. Select available and economically feasible alternative products/technologies
2. Carry out investigation and evaluation of alternatives, according to market requirements, improve the alternatives and enlarge local production capacity and/or improve production technique
3. Strengthen capacity of management and supervision

Project Implementation (3)



Execution Modality: National Execution (NEX) by CIO of FECO/SEPA with support by UNDP as required and requested

1. Quarterly advance
2. Use of national and international consultant/expert as required
3. Close cooperation and coordination with concerned ministries
4. Follow UNDP-GEF reporting requirements



Project Appraisal Committee Meeting

Alternative to DDT Usage in the Production of Antifouling Paint
18 September 2006,
Beijing, China



Purpose of PAC meeting

- Finalize the project document
- Project review
- Discuss for comments and recommendations



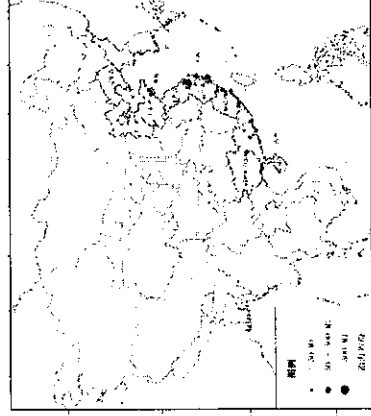
Background

- No specific exemption for DDT-based AFP in POPs Convention;
- Phasing out DDT based AFP is the most urgent compulsively request in China, and China has regarded it as high priority;
- PDF-B was approved at the end of 2005;
 - Fund \$365,000 among which GEF grant \$295,000
- Full size project approved at 28 Aug. 2006.
 - Fund \$ 22,955,000 among which GEF grant 10,705,000



Production

- About 250 MT of DDT is used in production of AFP annually;
- 19 formulation plants in coastal cities produce about 5000 MT DDT based AFP annually.





Usage

- DDT was first used as booster biocide in AFP in 1950s;
- To date, DDT-based AFP remains in use in many small and medium sized fishing boats by about 12 million fishermen in 9 provinces, along 1800 km coastline.



Hazardous of DDT based AFP



- DDT and its metabolites are known for their mutagenic, carcinogenic, and teratogenic potencies;
- Direct release of DDT from ship hulls coated with DDT based antifouling paint is of significant contribution to the increasing concentration of DDT in China's coastal water;
- Due to dispersion of DDT released into Yellow Sea, East Sea and South Sea into the Pacific by Kuroshio and North Equatorial Currents, DDT pollution is bound to extend from China's coastal waters into the international water body.



Legislations

- Comprehensive legislation exists on management of DDT production, storage, transportation, distribution, use, and disposal, but enforcement is insufficient;
- A series of bans have been issued prohibiting DDT usage in agriculture; however, not extend to AFP production;
- The national standard General Specification for AFP on Ship Bottom is the only standard for testing the quality and technical performance of antifouling paints, without addressing DDT concentration.



Alternatives

- During the workshop for selection of alternatives, selection criteria was determined:
 - Environmental performance is acceptable;
 - Technological maturity can be well promoted in the first year to reach the requirement of scale production;
 - Price will also be reduced through technological improvements and scale production to a level that will induce to full commercialization.
- Based on extensive literature review and field surveys during the PDF-B phase, 3 potential alternatives have been proposed:
 - Other organic booster biocides, accredited by international authorities
 - Capsaicine or capsinoids, used as repellent
 - Alkali silicate antifouling paint.

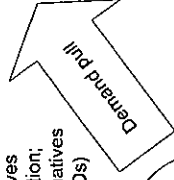


Barriers

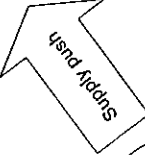
- Disordered production and unregulated market;
- Inadequate capacity for supervision and management on DDT distribution and use;
- Vast and complex bio-species marine environment, requiring different types of AFP;
- Lack of competitive alternative technologies/products;
- Vulnerable fishermen can not affordable for alternatives on the market;
- Lower awareness in decision-maker, administrative officers, technical personnel and the public.



- Price subsidy for new alternatives
- Eco-label with grade classification;
- Media campaign for new alternatives
- Public awareness raising (NGOs)



Market for non DDT based alternatives



Market for DDT based antifouling paint

Level reached by the project

- Bidding for participation in on-ship testing;
- Incentive for production conversion plan;
- Winner award for expansion of production
- Dealer award for best sale;
- Standards upgraded;
- Training for manufacturers

Baseline level



Project Objectives

- The project goal is to substitute DDT based AFP by technically feasible, economically viable, and environmentally friendly alternatives;
- The binding objective of the project is to eliminate the use of 250 MT/year of DDT as additives in the production of antifouling paint;
- The prospective objective of the project is to establish a long-term mechanism to protect marine environment and human health from pollution of harmful antifouling systems.



Project Approach

- Market oriented Systematic approach:
 - Create an enabling environment with regulations and enforcement;
 - Push the supply and pull the demand of technically feasible, economically viable and environmentally friendly alternatives;
 - Inducing consumption of end-users by training and public participation



4-year Timeframe

- First year:
 - Alternatives will be selected through open bidding and ranking process
 - Select manufacturing enterprises for alternatives production.
 - Manufacturing sites will be prepared and equipment installed.
 - Capacity will be built and policies will be established.
- Second and third years: production and promotion of the substitutes/alternatives in the market will be initiated and up-scaled.
- Fourth 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:



Thanks !



Project Management

