

**European Investment Bank loans
Shandong Coastal Shelter Forest Project (SCSFP)
Non-Technical Summary (NTS)

(English Version)**

**Forestry foreign investment and project management station
of Shandong Province
Shandong Agricultural University
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Shandong Province is one of marine disaster-prone provinces in China. The coastal shelter forest system plays an important role in disaster prevention and reduction. According to “The national overall plan of coastal shelter forest system of China” and “The development of forestry ‘twelve five-year’ planning outline of Shandong province”, 15 typical coastal counties (or districts) were selected, which were of low coverage, serious forest degradation, weak growth vigor, simple structure and hypofunction of shelter forests, to apply for implementation of European Investment Bank loans *Shandong* coastal shelter forest project. This project would absorb the international advanced silvicultural technology and management concepts, improve coastal shelter forest construction and project management of *Shandong*, protect the timber reserves and promote sustainable development of regional economy. Environmental impact assessment (EIA) and social impact assessment (SIA) were both carried out, in order to clarify what impacts of project implementation showed on prevention ability of natural disasters and what impacts on environments and society in coastal areas of *Shandong*.

1 Project Instruction

1.1 Scope

Project implementation sites belong to 15 counties and districts in four cities, *Binzhou*, *Dongying*, *Weifang* and *Weihai* (See Figure 1), and include five main implementation bodies (classification) which consist of 44 large-scale management forest farmers, 18 joint-stock companies, 13 cooperative societies, 198 collective forest farms and 11 national forest farms.

1.2 Content

(1) The afforestation. Total afforestation area, 31,369.38 hm², including the new shelter forest 31,124.41hm² (accounting for 99.22 %) and low-function shelter forest improvement 224.97 hm² (accounting for 0.78%). Additionally, the shelter forest afforestation includes three models, A1 (timber shelter forest, which is both of sheltering function and supply large quantity of timbers at the mature stand stage, the area of this model is 7,029.28hm²); model A2 (eco-shelter, which mainly exert ecological function, and the area 17,321.5hm²), model A3 (economical Shelter forest, which is of sheltering function firstly as well as supply economic products, the area 6,773.63 hm²), and, low-function forest improvement C (ecological and economic type), 224.97 hm².

(2) Technical support and project management. Include research and extension, training and technical consults, forests certification, project monitoring and evaluation, capacity construction of management institutions, trees nursery improvement.

1.3 Construction period and investment amounts

(1) Construction period: 4 years, 2015-2018. Of which, the first three years is afforestation period, one years after is forest tending period.

(2) Project investment: total investment 481.8 million yuan, including afforestation 413,866,200 (accounting for 85.97%); technical support and project management 24.8 million yuan (accounting for 5.14%); the interest during construction period 8.7 million yuan (accounting for 1.8%); unforeseen expenditure 34,433,800 yuan (accounting for 7.16%). The European Investment Bank loans is € 330million EURO (reference exchange rate, 1:7.3, that equals to RMB 240.9 million yuan), accounting for 50% of investment costs and the remaining 50% of the funds depends on our self.

1.4 Objectives

(1) Improving forest quality in project area, increasing the strategic reserves of timber, protecting timber security.

- (2) Increasing forests coverage of project area by 1.3% with afforestation 31,369.38 hectare, strengthen the protection function on agricultural lands and increase the grain yield.
- (3) Exerting the coastal forest sheltering function, such as water conservation, soil conservation, sand-fixation, carbon sequestration and oxygen release, salinity control and soil improvement, improving the ecological environment and habitation quality of coastal cities.
- (4) Increasing the ability of preventing typhoons, storm surges and other major natural disasters, protecting ecological security of coastal areas.
- (5) Absorb the timber production of 4.9 million m³ will sequester CO₂ 8,991,200 tons, which would have a positive impact on climate.

The increase income will be above 3.778 billion yuan during the project implementation.

2. Environment Impact Assessment (EIA) of project

2.1 Basis of EIA

The basis of EIA includes environmental protection laws and regulations, environmental protection standards, international environmental conventions, environmental policy and industrial policy, and other regulations, planning and technical documentation of construction projects, listed in Table 1.

- (1) Environmental Protection Law of People's Republic of China
- (2) Environmental Impact Assessment Law of People's Republic of China
- (3) Book of Kyoto Protocol
- (4) Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment
- (5) Directive 2001/42/EC on the assessment of the effects of certain plans and projects on the environment
- (6) The twelfth 'five-year' plan of forestry development in Shandong
- (7) Overall plan of coastal shelter forest system of China
- (8) Pesticide standard formulation and use manual of FAO and WHO
- (9) Pesticide safety standards of China.

2.2 EIA methods and indicators

April 19~26, 2014, the EIA specialists from Shandong Agricultural University, Shandong Forestry Department and Shandong Institute of Forest Science investigated seven typical counties, including *Kenli*, *Hekou*, *Zhanhua*, *Wendeng*, *Linqu*, *Shouguang* and *Huancui*. Information collection and resources investigation, field research and household interviews, were both used in EIA. Also the environmental awareness, positive and negative effects of project on the implement bodies were evaluated, and mitigation measures of negative impacts were also supplied.

(1) Collecting the information and Investigating resources

Collect environmental and social data and maps about ecological environment, natural resources, natural disasters and economic losses in 15 counties, and analyzing their environmental conditions and probable environment impacts.

(2) Field research

70 implementing bodies were interviewed, and ecological factors, biodiversity conditions, regional environment problems and sensitivity protection goals were investigated.

(3) Household survey

Through interviewing and distributing the 652 piece of questionnaires, the number of family members, balance of payments, education, the uses of the fertilizer and pesticides were investigated in each farmer family, and the information about awareness and understanding on environment impacts of this project was

also collected.

The assessment indicators included ecological, biodiversity indicators. It addressed the project impacts on environmental and social problems in the region (erosion, air pollution, salinization of soil, etc.) and also established and planned protection targets and identified the ecologically valuable areas.

2.3 Results and Analysis

2.3.1 Positive impacts

The project will have positive impacts on:

(1) Increasing the land utilization efficiency

Forest is planted on useless lands, such as the coastal beach, salinity land, barren hills and wasteland. Transforming them into timber forest, ecological forest and economic forest would greatly improve the land utilization efficiency.

(2) Water conservation

After afforestation, forest coverage would be increased, and the water conservation function of forest, such as water storage, relieving flood disaster, improving water quality and runoff regulation, would be improved effectively.

(3) Soil conservation

After afforestation, the forest can cover the ground effectively. Forest canopy and litter layer can make rainfall intercepted and absorb a large number of surface runoff, to eliminate the impact of rainfall and surface runoff on soil erosion and reduce all kinds of loss in the soil fertility. Additionally, roots also could hold the soil and help to soil and water conservation. Soil erosion were reduce 24.15 million tons and loss of nitrogen and phosphorus 53900 t in project period.

(4) Wind prevention and sand fixation

There is strong wind in coastal area. The forest belt can consume some energy of wind and reduce the speed through the foliage friction. And also, it can weaken the wind speed behind shelterbelt and form a weak wind zone to protected 15 H-30 H (H means height of tree) range from soil erosion and nutrients loss.

(5) Protective benefits

Coastal shelter forest can reduce the natural disasters such as hail, frost, wind, sand, dry-hot wind, and serve for fighting the typhoon, tsunami and storm surge to protect the lives and properties of people and the safety of industry and agriculture. According to estimation, this project can protect 300, 000-400,000 hectares of land and improve about 10%-20% grain yield.

(6) Carbon sequestration and oxygen release

Based on some research results and our survey data, in 25 years period, the forest of this project can release 6,544,600 million tons of O₂. Accumulated carbon storage would be up to 8,991,200 tons, which could reduce the greenhouse gases contents and prevent global warming effect.

(7) Air cleaning

Coastal shelter forest can eliminate some toxic and harmful substances through decomposition, filtration, prevention and absorption, such as SO₂, fluoride, nitrogen oxides, dust, and heavy metals. It also could reduce photochemical smog pollution, purify radioactive substances.

(8) Regulating regional climate

Canopy of shelter forest can prevent solar radiation, condition temperature in summer and winter. It also could reduce the harm of dry-hot wind. Shelterbelt can reduce soil evaporation by 30% ~ 40% and increase air humidity by 5% ~ 20% to reduce the drought damages. Additionally, shelterbelt can reduce wind speed by 50% and prevent the wind- sand disaster.

(9) Biodiversity conservation

The project scope is far from natural reserves and rare wildlife inhabitants. The project implementation would increase forest coverage by 1.3%. It can directly increase the number of species by afforestation, and increase the biodiversity. And, with the improvement of environments, all lives would be restored, protected and reproduced in project areas. At the same time, it can create a good corridor for wild animals surrounding the region.

(10) Sensitive goals protection and Forest Recreation

No sensitive items located in project scope, and it is not listed in ecologically vulnerable area. Shelter forest would be helpful to landscape construction, water purification and conservation. The high quality environment can provide leisure and entertainment for people. And, it is beneficial for forest tourism development.

2.3.2 Environment current status and "zero" project, that is the environmental impact without project

- (1) **Environment current status** The forest coverage is greatly smaller than average level (22.8%) of Shandong province. Coastal shelter forests are of simple structure, lower productivity and small biodiversity. The salinity is very serious and the stand is very bad, which make afforestation very difficult. So, the environment in coastal areas is very bad and disasters often appear.
- (2) **"zero" project** The resistance of coastal barren areas and sand lands from erosion would be weakened gradually. And soil and water erosion become more and more serious. The environment degradation is not prevented. The structure and function of coastal shelter forest decreased and comprehensive effects are not exerted. Habitat degradation, wildlife reduction and biodiversity reduction would be more and more serious.

2.3.3 Negative impacts

The potential negative impacts of the project include:

(1) Effect of project on vegetation and soil

Stands preparation, young trees tending and low function forest improvement would cause some temporary and partial destruction on original surface vegetation and soil, so as to generate to an extent water and soil loss. But, as the natural vegetation grow up in forest understory, it can compensate the removal of the original natural vegetation biomass effectively and play the role in soil and water conservation.

(2) Effect of project on regional biodiversity and species safety

In project area, if native species are not used, it is possible that biological invasion would occur. And that would be harmful to native species safety. Additionally, the activities such as land clearing, planting trees, would disturb native vegetation and cause some difficulties of animal feeding or migration. But, as time, the vegetation would restore and improve the habitats of animals, increase the diversity.

(3) Effect of chemical fertilizer, pesticide leaching on ecological environment

The project required the fertilizer application in management process. With the soil loss, fertilizer losses would also occur. Especially, improper surface fertilizer application will lead to water pollution, as fertilizer is easily leached into surface water with surface runoff.

In pest control, using pesticides application might also cause damage to natural enemies of pests. Improper pesticides application might cause soil and water pollution, and that also might damage human and livestock. But, those potential risks could be controlled.

2.3.4 Solutions for negative impacts

(1) Solutions to destruction of surface vegetation and soil erosion impacts

- ① Prohibiting vegetation clearing and stand preparation, afforestation technology use hole-shaped preparation, reducing the destruction to ground surface.
- ② Using cave-shaped preparation along mountain contour line, and the holes distribute as triangle. Shrub and grass are planted on slopes to prevent soil and water loss.
- ③ Using platform-like stand preparation on saline and alkaline lands, to leach salt and reduce the salt content in soil.
- ④ Retaining original young trees on forest lands, reduce the destruction on native surface vegetation, prevent surface soil bareness.

(2) Solution to biodiversity and bio-safety impacts

- ① Building mixed-forest with the band, mass mixed models. Supporting the compound management and stroked with agrarian generation.
- ② Selecting native tree species.
- ③ Reducing the application of pesticides, and support bio-control to protect environment. Be accordance with national and European Union standards, use high-efficiency, low-toxicity and low-residual pesticides, using ultra low volume sprayer control methods.

(3) Solution to effects of fertilizer on the environment

- ① Support the use of manure, cake fertilizer, organic fertilizer and reduce the amount of fertilizer.
- ② Make reasonable fertilization plan, reasonable use of the variety and quantity of fertilizer, fertilizer loss and avoid environmental pollution.
- ③ Using fertilizer hole-application and band-application, bury with soil after application immediately and application on soil surface was prohibited.

(4) Solution to effects of pesticides application on human, livestock and environment

- ① Strengthen the quarantine of tree seedlings, to prevent seedlings with diseases away from project area.
- ② Make the environment of project area clear and non-toxic, control the sources of pest and disease to improve the biological resistance capacity of forest itself.
- ③ Pest and disease control focus on biological control model, reduce chemical consumption. Low toxicity, low residue or bio-rational pesticides should be chosen to reduce the impacts on the environment (Appendix Table 1)
- ④ When applying pesticides, pay more attention to spraying doze, time and method, avoiding pesticide spray excessively to prevent waste pesticides into environment.
- ⑤ Pesticides application should avoid breeding season of birds, and use low-toxicity or non-toxicity pesticides and fertilizers.

2.3.6 Summary

The implementation of this project will significantly increase forest in project area and help to play multiple functions of coastal shelter forest. Project construction will have positive effects on land use, water and soil conservation, carbon sequestration and oxygen release, windbreak and sand fixation, air pollution control, biodiversity conservation, etc. The project negative impacts on the surface vegetation, soil erosion, pesticide and fertilizer pollution, etc., will be minimized or eliminated through a variety of mitigation measures and scientific management.

3. Social Impact Assessment (SIA) of project

3.1 Basis of SIA

- (1) Social Impact Assessment Indicator System of World Bank Loan *Shandong* Ecological Afforestation Project
- (2) Administration Measures of the Ownership Registration of Forest Trees and Forest Lands

- (3) Economic Evaluation Method and Parameter on the Construction Project (3rd edition)
- (4) Reference Guide for the Preparation Work of China Forestry Framework Loan Project from the European Investment Bank
- (5) Social Impact Assessment of Forestry Investment Project.

3.2 SIA Methods and indicators

3.2.1 Methods

August 24~September 1, 2014, the social evaluation group which is consists of comprehensive agricultural development center and agricultural university of China also chose 15 project counties for field trips. Also, they depend on the instruction situations of the coastal shelter forest. They have respectively carried on the consultation to stakeholders and social impact assessment to 15 project counties. The social evaluation group adopt stratified sampling, field investigation, questionnaire investigation, discussion, etc. main approach are:

- (1) **Information on the project:** To post notice and distribute propaganda paper in local government offices and involved towns, to propagandize through newspapers, TV, broadcast and network, potential social risks, opportunities, area and aims associated with project was introduced to publics.
- (2) **Information collection and resources investigation:** Collect county, township and village level relevant secondary data and information of 15 project county, including population and society, national economics, analyzing the conditions of project area and possible impacts on society.
- (3) **Household survey:** SIA group carried on household survey and distributed 652 pieces of questionnaires. the members number of family, balance of payments, education, etc., were investigated in each family.
- (4) **Public consultation:** SIA group hold 73 discussions with 5 kinds of implementing bodies including large forestry, joint-stock company, cooperatives, collective forest, to determine the degrees of the implementing body understood and the knowledge and the implementing wishes and expectations of the social impact the problem , experiences and lessons of the same implementing project and daily management in 15 project county,. Additionally, 652 people, of which 51% are poverty farmers and 23% are women, were interviewed to evaluate the public understanding and acceptance to project.
- (5) **Market investigation:** Extract the certain percentage of fruit, wood and forest products markets to investigate the source of forest products, annual yields, amount of raw materials and purchase price, products productivity and price to market.

3.2.2 Indicators

Population, labor force structure and proportion, forest products, forestry output value, structure and its proportion in the agricultural output value, per capita net income and composition and source of farmers, government tax gross and source of total land area and the ownership status, historical relics and cultural heritage.

3.3 Results and Analysis

3.3.1 Positive impacts

According to the analyze of survey data and second-hand baseline data from social assessment group, the social economic impact of the project construction to project counties at coastal areas are as follows:

(1) **Increasing timber supply.** During the project management period, wood production would increase by 234,000 m³ every year. And also, the project construction will play a significant role in improving forest lands structure, raising productivity of forest lands, ensuring timber security, promoting the sustainable development of social economics.

(2) **Expanding benefit groups and population.** The project consist of 15 counties (or districts) and

132 villages (or towns), and more than 940 000 households and 3.77 million rural people would benefit from the project.

(3) Increase the income of farmers. In the analysis, it is clear that individual farmers are primary beneficiaries of the afforestation project by offering their labor forces in both afforestation and maintenance processes. Women, and left behind labors (most of them are around 50 to 60 years old), in particular, are key potential labors in the whole process. During the project, about 600 000 working days per year are expected to supply for society, and large quantities of labors can be arranged to be employee one year, which make a positive role in solving the surplus rural labor employment, realizing the labor transfer, and increasing labor income. Labor remuneration according to the workload and work skills, about 100-200 yuan per person a day, according to estimation, the total management period need about 26.81 million labor days, about 6000 employee per year.

(4) Promote the development of related industry. After the project, the forest coverage will increase by 1.3%. The industry and agriculture will be promoted, and the water conservancy facilities will be protected, which improve the ecological environment in coastal areas and make the forest landscape benefit even more significant, but also make the forest tourism number increased year by year, and the development of forest tourism industry would be promoted. Besides, the increase of forestry production and products will drive the development of timber and other forest products processing industry and transport industry, which promote the economic prosperity and make the tax raised 1.75 % to be come true.

(5) Drive the improvement of forestry management level. Through the project, new concepts and technologies about forestry construction would be introduced to China. And through science and technology promotion, demonstration, training, and inspection, the project will improve level of management, technology to promote the forestry sustainable development.

(6) Benefits for harmony among different nations. According to the analysis of second-hand baseline data, there are about 8.11 million people in 15 counties, which consist of 3,498 people of minority nations (0.04% of total population). Most of them inhabit in cities, and there are no issues of minority nations in this project. On the contrary, through this project, many farmers who went to cities for employee would go back and leave cities, which would be help for harmony among nations.

3.3.2 Negative impacts

(1) Differences of large-scale groups and Vulnerable groups on opportunity of participate in project

According to the survey results of SIA group, 5% of large village farmers would hold more opportunity to participate in project than general farmers, which prevent them from touch modern technologies and concepts about forestry construction, and influence their income. In addition, the women group is easy to be ignored for their vulnerable in both their social and economic development status, and to a certain extent, their opportunity to participate in the project were reduced.

(2) Differences between ecological protection and farmers' income targets

The assessment found that there are significant differences between ecological conservation objectives and farmers' economic income expectation through participating in reforestation projects. The government aims at time reserve and ecological function of forest, as well as farmer income improvement. However, farmers often give priority to economic gains, and secondly consider ecological protection. So, if farmers was not willing to attend afforestation project or focus on economical protection forest in afforestation model selection, that would lead to conflict between these two aims and result in disagreement on the choice between tree species choice and forest management model.

(3) Poverty and vulnerable social groups lack the ability to participate in the project

The evaluation group found that the auction of land use rights also reflected the lack of labor, personal ability, social networks and social capital in poor households, which might lead to their ability reduction of

participate in project. Thus, poor households in the community and vulnerable social groups in the implementation of the project may be marginalized, especially in the decision-making process.

(4) Potential social risks and uncertainties relating to land tenure and transferring tenancy

Farmland transfers are available for individual farmers who are not able to farm their land but contract out to other organizations or individuals by signing a lease contract. Farmers are legal to charge some rental fee by this farmland transferring. Most of those farmlands transferred and leased are barren forestlands or farmlands that have very low efficiency of farming by individual farmers. The price of rental will be negotiated between farmers and organizations who want to rent the lands for afforestation activities under this EIB project. The length and price of the rental contract varies in different areas and in different land conditions. When farmers will terminate land leasing contract when they found out they are paid too low for land leasing; and economic returns can not meet farmers income expectation, so they might change forest land into other high value added products; especially, the prices of rental would be an issue as there are still some crops planted currently on these lands, which means the rental should be higher or at least same than the current income farmers receive from their farming activities on those lands.

3.3.3 Solutions for negative impacts

(1) Raise participation rate of cooperative in the project

Suggesting to develop partnerships and to build cooperatives that small farmers can also participate in the project, it is an effective measure to improve the abilities of individual farmers to participate in the project and the effective management of resources. If small-scale farmers would not directly participate in it, they can transfer collective forest land use rights to big subcontractors. But, firstly, both of them must make agreement in the opinion about the later benefit sharing mechanism.

(2) Ecological and economic benefits considered in afforestation design

The live of farmers is very important for forest resource dependence, so recommending forest department and forestry integrated development projects should consult with relative farmers, so as to make agreement on ecological and economic goals. Firstly, for the forest sorts design is considered, the main body of project construction should aim at both timber forest and shelter forest. Especially for poor farmers, economic shelterforest should be firstly considered to meet the demand for their live. And secondly, on the planting and management models, managers should pay more attention to intercrops in forest, which would be help to solve the problems of long time returns of forest and promote the sustainable development of forestry.

(3) Advocate multi-level community participation

There are obvious differences between rich farmers and poor farmers about the opportunity and ability to participate in the project. Rich and innovative farmers are easier to get access to loans and other support, while poor and vulnerable groups are difficult. So, during the design and implementation phases of the project, poor farmers and other vulnerable social groups should be given the same opportunity. Based on consultation, give them some rights to improve their management skills and participation degree.

(4) Attention to participants skill training of knowledge and technical ability

During the implantation, aiming at different demands of farmers at different stage, suggest forestry department carry out some training and instruction on technical skills, especially on training skills of women and weak groups, to improve their work skill and self ability. Through multiple ways, improve the income and benefit of participants.

(5) Ensuring the participation and benefit of women

Should be paid attention to gender equality and mainstreaming in the process of project implementation. It is therefore recommended to county PMO to include female farmers in the project supported technical training, meanwhile, agro-enterprises should give female labors priority in employing

new workers for filling out the work positions that appropriate for women. In order to enable women's participation, women's groups should be formed for focus group interview. Female participants invited to the workshops or consultation meetings should be at least 1/3 of the total participants. Women should be consulted in selection of the tree varieties, discussion on afforestation types and post planting maintenance, considered in designing the project activities, etc. Women's participation and benefit from the afforestation activities, seedling production, technical training and technical extension services, etc., should be also ensured through formulation special indicators in the logical framework and project performance measurement framework.

(6) Consultation on the countermeasures for reducing the impacts of land use restrictions

For the potential social risks of land circulation, following alternative countermeasures for reducing the negative impacts might be considered:

① Inform the households who have contracted the wasteland about the resource restrictions and consult how to reduce the restrictions;

② Users of the collective land for grazing: during consultation meeting, alternative countermeasures for supporting the affected households to transform the existing open grazing to in-door feeding pattern should be worked out in cooperation with the county animal husbandry bureau or agricultural bureau; To allocate part of the collective land for fodder production in order to reduce the dependence to the natural grazing.

③ To allocate alternative grazing sites in the villages having large amount of waste mountain or saline lands;

3.3.4 Summary

Project will to some extent achieve sustainable management of coastal forests, and protect national timber and ecological security. Meanwhile, it would adjust to the agricultural structure and socio-economic structural in the project area, and promote the harmonious development of the project area population, economy, society, ecology, resources, and have significant social benefits.

4. Project monitoring

In order to reduce or eliminate the negative impacts (environment and social) of the project, avoid the risk of technology, ecology, environment and society, ensure the project construction quality and expected goals reached, the project will carry out program monitoring in terms of both the ecological environmental impacts and social impacts. And, monitoring contents and indicators, methods, techniques are showed in Table 1.

Table 1 Ecological environment monitoring plane

Monitoring content	Monitoring indicator	Monitoring frequency	Monitoring sites in project area
Water storage and fertilitykeeping	Soil retention, soil nutrients, soil erosion	Once per year at the first, third, and fifth year	One site
Disease and insect pests	Species, incidence, damage degree	Twice per year	Two sites
Biological diversity	Species diversity of arbor, shrub and herbaceous plant	Once per year at the first, third, and fifth year	One site
Forest carbon sink	Carbon fixing of plants, soil and changes in carbon storage	Once per year at the first, third, and fifth year	One site
Benefit of protection and microclimate improving	Air speed, soil erosion capacity, air temperature and humidity, soil salinity	Twice per year	One site
Purify the air	Dust absorption, negative ions providing	Once per year at the first, third, and fifth year	One site
Social economic	Per capital income, timber forest output value, economic forest output value, forest products output value, education input, fertilizer and pesticide input, forestry technical training and support, public participation, motivation to participate in the project, satisfaction of the implementation of the project	Once per year at the first, third, and fifth year	One site

5. Conclusion

Shandong Province, takes advantage of European Investment Bank loans to build Shandong coastal shelterbelt project, which accords with industrial policies and local site conditions, which is the most feasible location. Implementation of the project will increase the forest coverage rate and timber resource reserves; it isn't only conducive to nitrogen fixation and oxygen release, but also helps to accelerate to combine forestry ecological construction with industrial development; meanwhile it is conducive to biological diversity conservation, ecological environment improvement and protection function improved. On the premise that ecological protection mitigation measures have carried out, the project area shouldn't have protected the sensitive targets, and the negative impact of the project on the ecological environment could be completely controlled within limits. Furthermore, consider this from a social perspective, the implementation of the project makes industrial structure of agriculture and socio-economic structure adjustment, and promotes the development population of project area, economy, and social harmonious, which has significant social benefits. Therefore, to analyze construction of the project from the perspective of environmental protection and social development, it is also feasibly and necessarily to be come true.

Figure 1 the sketch map of EIB loans Shandong coastal shelter forest project

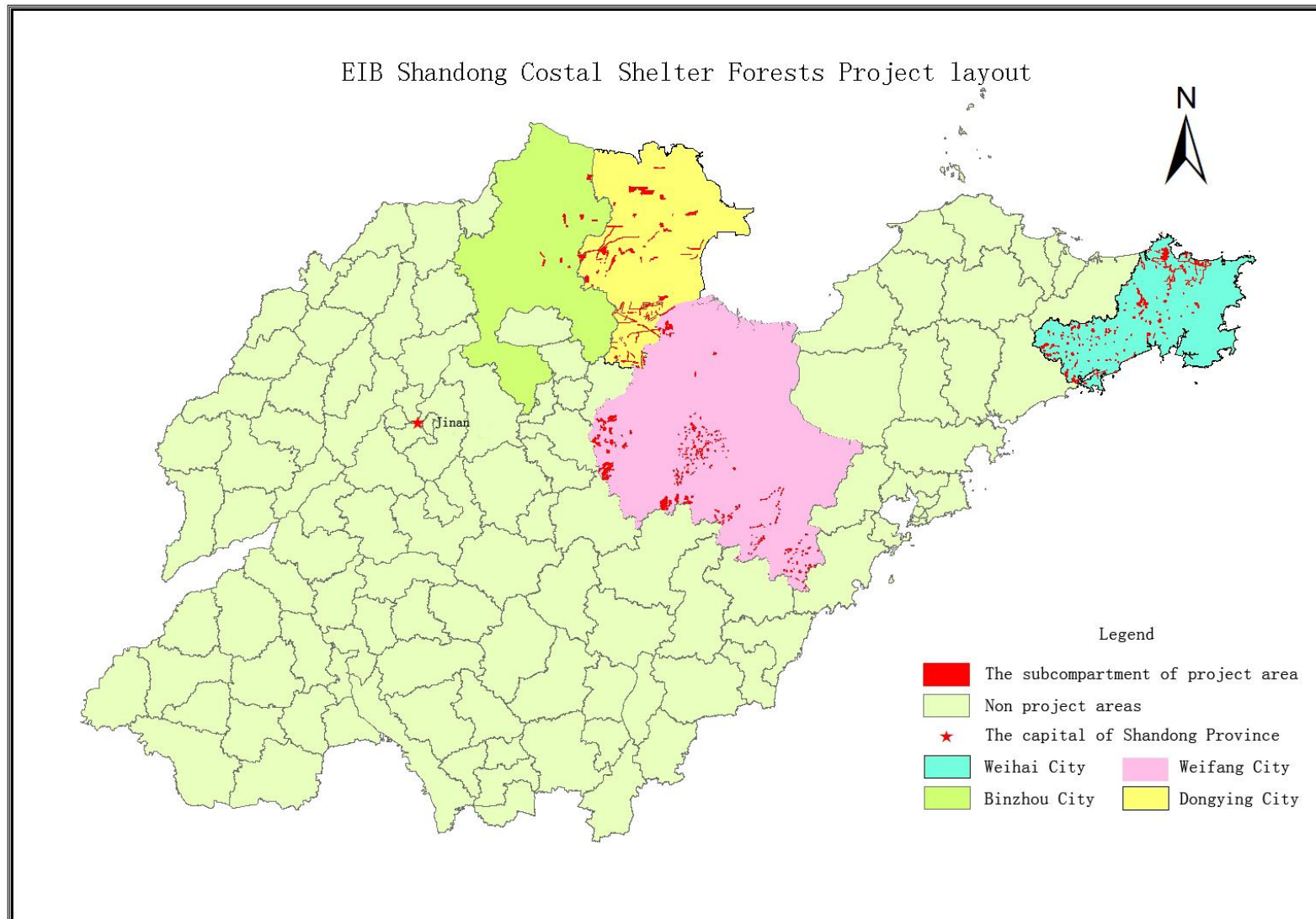


Table 1 Basis for evaluation of project environmental impacts and social impacts

Category	Basis for evaluation of project environmental impacts and social impacts
The environmental protection laws and regulations	<ul style="list-style-type: none"> (1) Environmental Protection Law of People's Republic of China (2) Environmental Impact Assessment Law of the people's Republic of China (3) Forest law of the people's Republic of China (4) Sand control law of the people's Republic of China (5) Wild animal protection law of the people's Republic of China” (6) Water and soil conservation law of the people's Republic of China (7) Solid waste pollution of the environment law of the people's Republic of China” (8) The people's Republic of China Marine Environmental Protection Law (9) Shandong province environmental protection regulations (10) Shandong Province, the implementation of Environmental Impact Assessment Law of the people's Republic of China way (11) The EU Directive on Environmental Impact Assessment, Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (12) The EU, Certain plans and programs on the environment impact assessment directive, Directive 2001/42/EC on the assessment of the effects of certain plans and programs on the environment (13) The Kyoto Protocol
Environmental standards and specifications	<ul style="list-style-type: none"> (1) Technical guidelines for environmental impact assessment General programme(HJ/T 2.1-93) (2) Technical guidelines for environmental impact assessment Atmospheric environment(HJ/T 2.2-93) (3) Technical guidelines for environmental impact assessment Surface water environment(HJ/T 2.3-93) (4) Forest tending procedures(GB/T 15781-2009) (5) Technical specification for transformation of low yield timber forest(LY/T 1560-1999) (6) Technical specification for afforestation(GB/T 15776-2006) (7) FAO and the World Health Organization standards development and use of pesticides Handbook (8) People's Republic of China Pesticide Safety Standards The EU pesticide residue standards
Environmental policy and industrial policy	<ul style="list-style-type: none"> (1) Twelfth Five-Year Plan of the people's Republic of China National Economic and social development (2) China National Climate Change Program (3) The CPC Central Committee and the State Council decision on accelerating the development of forestry (4) "Twelfth ‘Five Year Plan’ for forestry development (State Forestry Administration) (5) National strategic reserve of timber base construction plan(2013-2020) (6) The overall plan of national the coastal shelter forest system (7) The comprisal of the Twelfth five-year plan of economic development in Shandong Province

Relevant technical files	<p>(1) National development and reform commission, Instructions for using European Investment Bank loans for forestry construction, [2012]396</p> <p>(2) Ministry of Finance, Notices of using European Investment Bank loans for forestry construction, [2012]40</p> <p>(3) Ministry of Finance, Management regulations on international financial organization and foreign government loans and donations</p> <p>(4) Ministry of Finance, Regulations on foreign government loans and donations [2009]176</p> <p>(5) Ministry of Finance, Regulations on foreign government loans on-lending, [2009]114</p> <p>(6) State Forestry Administration, Demands for file components and depth of afforestation projects</p>
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