Social Assessment Report for World Bank Financed China Agricultural Technology Project

Hunan Sub-report

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Chapter 1 Project Summary in Hunan

I. Background of Hunan

Hunan Province is located on the south bank of the middle reaches of the Yangtze River. The province governs 14 cities (prefectures), 122 counties (districts), 2353 townships (including 104 minority townships), with a total population of 65,958,500 people, including agricultural population of 51,973,400 people, 30,964,300 rural laborers. There are altogether 55 minorities, with a total population of 6410,700 people, including 2,639,500 Tujia people, accounting for 41.17% of the total minority population, 1,921,500 people Miao people, accounting for 29.9%, 842,100 Tong people, accounting for 13.14%, 704,600 Yao people, accounting for 10.99%, 125,600 Bai people, accounting for 1.96%, the others 177,400 people, accounting for 2.77%.

The province has a total land area of 211,800km², cultivated area of 3912.6kha (2,959.9kha paddy field and 952.7kha dry land), accounting for 15.2% of the total land area; forest area of 9579.5kha, forest cover rate of 52.76%; grassland area of 4007kha, water surface area of 1513kha, fresh water aquiculture area of 422.5kha.

Hunan is characterized by subtropical monsoon humid climate, plenty of rainfall, sufficient sunshine and distinctive seasons, long frost-free period, suitable for the growth of animals and plants; the annual average air temperature is 16-18°C, annual average rainfall 1300-1700mm, frost-free period 265-310 days, annual sunshine duration 1300-1800 hours.

The province’s GDP in 2001 was 398.3 billion yuan, including agricultural total output value of 131.3 billion yuan; total financial revenue of 36.1 billion yuan (the local fiscal revenue is 20.541 billion yuan), the per capita farmer income is 2299.46yuan.

Hunan is a major agricultural province and one of the main agricultural producing areas of China, where the output of grain, live pig, cotton, oil, ramie, tealeaf, citrus, aquatic products ranks top in China. In 2001, the province’s gross grain output was 27,003,000t, ranking 6th nationwide, of which the rough rice output is 23,289,000t, ranking top nationwide; the cotton output 190,000t, ranking 7th nationwide; the oil output 1374,000t, ranking 7th nationwide; the ramie output 94,000t, ranking 1st nationwide; the tealeaf output 58,000t, ranking 5th nationwide; the citrus output 1408,000t, ranking 3rd nationwide; the amount of released pork pigs 62,575,000 heads, ranking 2nd nationwide; the output of aquatic products 1410,000t, ranking 10th nationwide; the amount of released beef cattle 1377,000 heads, the amount of released sheep 5692,000 heads. Quality specialties include yellow day lily, Hunan lotus nut, mushroom, ginger, pepper, etc. ¹

However, Hunan’s agriculture is extensive as a whole, the rural economic structure, especially the industrial structure is not rational enough. The main cause is the low technological level of agricultural production. With China’s entry into the WTO, the trend of economic globalization is increasing, which requires a higher speed of industrial

restructuring. Hunan is also a major province in terms of population with relative scanty per capita resources. The final approach to satisfy people’s demand for quantity and quality of farm products and get adapted to global competition is to improve farmers’ technological accomplishment based on technical advance, realize the transformation from extensive operation to intensive operation. Accordingly, the Hunan people’s government has proposed the strategy of “revitalizing Hunan with science and education” and “sustainable development”, trying to raise the contribution of agro-tech to agricultural economic growth. This World Bank financed technological demonstration and popularization project is executed at the right time in Hunan.

II. Project Background

The 13 projects selected in Hunan are distributed in 11 cities (Changsha, Zhuzhou, Yueyang, Yiyang, Changde, Hengyang, Chenzhou, Yongzhou, Huaihua, Shaoyang and Loudi) and the project execution locations cover 12 cities.

13 companies or units have participated in the project, including the National Hybrid Paddy Engineering Center, the Beijing Forestry University, Hunan Agricultural University, Central China Forestry College, Hunan Normal University, Canada IND Group, Hunan Academy of Agricultural Sciences, Hunan Academy of Forestry Sciences, Hunan Traditional Chinese Medical College, Hunan Melon Research Institute, Heredity Institute of the Chinese Academy of Sciences, National Feed Engineering Research Center, Beijing Tianfulai Biotechnology Limited, Central China Agricultural University, Zhejiang Academy of Agricultural Sciences, Changsha Vegetable Research Institute, Hunan Stockbreeding & Veterinary Research Institute, Canada Stockbreeding Service Company. Above 100 experts have participated in the project, including Academician Yuan Longping and Academician Zhu Zhiti of the Chinese Academy of Engineering and other famous professors famous in China. Above 96,000 farmer families are directly involved in the project.

Chapter 2 Detailed Survey of Each Project

I. Two-System Super Hybrid Paddy Project of Hunan Province

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Educational Service Center of Agricultural Science and Technology of Hunan Province</th>
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</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>National Hybrid Paddy Engineering Center</td>
</tr>
<tr>
<td>Construction site</td>
<td>Suxian District of Chenzhou City, Rucheng County</td>
</tr>
<tr>
<td>Main construction contents</td>
<td>1. Instruments and facilities equipped for the key laboratory for scientific research, a base of 14 ha. for breeding of seeds of parents; 2. A base of 80 ha. for breeding of nucleus seeds and raw seeds of the high quality dual-purpose</td>
</tr>
</tbody>
</table>
genic male sterile line in paddy, a production base of 2133 ha. of high quality F1 super hybrid paddy seeds; 3. A seed processing factory house and a warehouse of 3600 square meters; a set of production line for choice, measurement and packaging of seeds and the corresponding instruments to be purchased; 4. A seed quality test center of 300 m² with concerning test instruments and multi-spots of 12 ha. for ecological appraise of the male sterile line in paddy and a base for seed purity appraise; 5. A seed marketing center of 600 square meters and an agricultural technology training center of 600 square meters.

Major techniques to be demonstrated and popularized


Economical benefits

Annual production capacity of 0.24 million kg seeds of the high quality dual-purpose genic male sterile line in paddy; annual production capacity of 0.08 million kg seeds of restoring line in paddy; annual production capacity of 6.4 million kg of high-quality F1 super hybrid paddy seeds; annual sales revenue of 82.88 million Yuan, tax to be gathered of 3.98 million Yuan, net profits of 8.08 million Yuan; investment tax rate of 33%, a rate of return on investment of 24.58%, an investment recovery period of 6.06 years (including construction period).

Social Benefits

6.4 million kg high quality F1 super hybrid paddy seeds can be popularly planted into 6.4 million mu, increasing the grain yield by 0.32 million tons compared with that of three-system hybrid paddy and obviously improving the quality; increasing the annual revenue of the farmers to manufacture seeds by over 8 million Yuan and pushing the farmers’ prosperity; improving the popularization and use of the advanced and practical agricultural techniques, improving the scientific nature of the farmers and adding the farmers’ employment.

(II) Affected Area, Affected Farmers and Project

The project location—Suxian District and Rucheng County under Chenzhou City are situated south of Hunan, with advantaged natural and ecological environment. It is one of the most suitable areas for the seed cultivation of 2-strain super hybrid paddy. In 2000, the central area of this project—Suxian Experiment Base—created the world record of 777.8kg per mu seed yield of 2-strain super hybrid paddy. Rucheng County was listed as a “state-level production & operation base county for seed cultivation of hybrid paddy” in 1989, with large area per mu seed yield of 300kg for 3-strain hybrid paddy, small area per mu seed yield of 400kg, ranking top nationwide. The affected area has a total population of 700,100 people, of which the agricultural population is 517,700 people, minority population 54,700 people, 219,500 rural laborers, including 103,400 women laborers.

The SA Team conducted a field investigation on Gaoyaling Village in Liangtian Town under Chenzhou City—one of the execution locations of the project.

This village started seed cultivation since 1977, when the government organized some literate farmers to study seed cultivation in Hainan, a production brigade has about 10-20mu land for seed cultivation, the seed was sold at 2yuan/catty (the grain price was 0.75yuan/catty at that time) and the per mu yield was about 200 catty. After the allocation of land to family, farmers continued with seed cultivation and increase their technique, increasing the output to 500-700
catty/mu. There was at most 800mu field in the village used for seed cultivation. Later, due to the development of tobacco leaf, the field of seed cultivation reduced. Now 170 families are dealing with seed cultivation, accounting for above 40% of the total number of families. The provincial seed company once cooperated with this village for seed cultivation for 5 years. At present, this village is cooperating with Guangxi Shenlong Dafeng Seed Technologies Inc. for a contract period of 1 year. The project executive unit contacted with this village in Mar 2003 and publicized the coverage of project construction.

The company previously in cooperation with this village simply contracted the purchase of seed and invested little in the village, generally thousands to 10,000yuan. Now the Provincial Science & Education Center is willing to deal with infrastructure construction for them, so the village hopes to cooperate with the center. Farmers attending the forum hope the fund can be in place as soon as possible. As for the purpose of the World Bank fund, they hope it can be used for the construction of water conservancy facilities and roads, and expect that the project organizer can advance the initial fund. The risks proposed by farmers include climatic risk, variety risk and risk from poor mastery or immaturity of the technique.

Attached:

Villager Interview Case 1:

Chen X, female, 41 years, having acted as woman director for 3 sessions, now being chairman of the village planned parenthood association.

Her family has 6 members, 6mu paddy field, 3mu dry land, 3-4mu of which was previously used for seed cultivation, but only 1mu is used for seed cultivation this year, mainly because her husband has received a surgical operation and the family lacks labor, her son and daughter in law are working outside, she has to take care of his grandson. The remaining paddy field is used to grow middle-season rice, the dry land is used to grow sweep potato, peanut, vegetable. She spends 60-70% of her time on farming and also serve some jobs at the village. She would make investigations at rural areas and is also a midwife. In 2001, her earned 5000yuan from seed cultivation, 500yuan from pig raising and 300yuan from duck raising. The expenditure is mainly living expenses, above 400yuan a month.

The income from seed cultivation is at least 300yuan/mu. If the per mu yield is over 400 catty, the income would be above 600yuan. After harvest, the land may be used to grow late rice and cash crops.

70% seed cultivation operators at the village are women, most men are working outside. Here, many male laborers are working nearby and would help at home in the busy season. As long as the seed price is reasonable and the seed combination is good, villagers don’t have to work outside. Seed cultivation mainly includes the transplantation of rice seedlings and pollination, needing labor for harvest. When this project is executed, more women will participate.

She thinks the pattern of company + farmer is good, because the company assigns technicians for guidance and the output is high, all farmers have made a profit. She suggests that: 1) the company shall provide good seed combinations to farmers; 2) risk sharing, in case of a natural
disaster, the company shall give certain compensation to farmers; 3) the price shall be rational, the income on seed cultivation shall be higher than planting regular rice; 4) the company shall provide farmers with a superior environment, increase its investment in agricultural facilities at the seed cultivation base to improve the local irrigation and traffic conditions, especially that a mechanized farming road can be built to relieve the labor intensity of farmers; and 5) they can buy fertilizer on credit and repay the money to the company after harvest. So far, the contract has guaranteed farmers’ interests, villagers are the greatest beneficiary. The main risk is natural disaster.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

Mission Recommendations: Proposal is potentially suited to be included under the project. However, the Review of the proposal elicited the following mission comments and recommendations:

- Project funds (from the Bank loan and counterpart funds) need to be better targeted to directly benefit participating farmers. The present proposal calls for most of the funds to be spent on infrastructure (roads, drainage stations, irrigation canals, etc.). This needs to be re-assessed in the proposal and cost table so that the share of project funds to individual or farmer groups are specifically described and quantified.

- Project assistance (counterpart and Bank loan funds) to technology and research entities, as well as to business enterprises ultimately aims at improving the income and livelihood of farmers. Proposals made by technology and business enterprises must therefore be updated to explicitly demonstrate how they will interact (for example: explain the relationship between the companies and farmers; the intended contractual arrangements, etc.) with farmers.

- Impact of proposed activities on farmers need to be clearly quantified in the proposals for example: expected number of farmers to benefit from proposed activities, estimate of benefits such as the improvement in yields and income).

- Companies should explore the possibility of giving participating farmers/villagers equity share in the company.

- Indication on what the Co. plans to do incrementally to equip itself with the skills needed to manage the expanded business enterprise.

2. Comments and Suggestions of POCAD

a. The project involves world-class technique and has a powerful technical support unit, with the high attention of Academician Yuan Longping.

b. The project executive unit’s personnel are highly competent, represented by Dr. Wang Renxiang. The Science & Technology Office under the Provincial Agricultural Dept is responsible for coordination to promote the conversion of technical achievements.
c. The social, economic and ecological benefits are good. This is a sustainable project that will enrich farmers. The technical training can improve the technological level of affected farmers.

d. Compliance with the state industrial policies and requirements for long-term growth.

e. The selected base is an old seed cultivation base, where farmers are experienced. The World Bank is the most interested in this project.

f. There are 2 issues to be clarified for this project: a) it’s more complex than ordinary projects, involving many aspects, including support unit, unit in charge, base and seed company. When visiting the base, provincial project officials proposed the question of how to coordinate relations among different units. Accordingly, when the project is approved, the responsibilities, rights and interests of different parties shall be clearly defined.

3. Comments and Suggestions of Project Company

a) The World Bank fund is also expected fund the technical training to farmers and its scientific research.

b) The government is expected to organize all levels of agro-tech departments to assist in the technical training to farmers.

c) According to past experiences, seed cultivation profits for a year and suffers from deficit for the next year generally, which is quite regular. Accordingly, there must be storage facilities to postpone the sales of seed. The World Bank fund is expected to enhance the financial aid to this item.

d) The World Bank has raised objection to the use of its investment in infrastructure construction, but the executive unit and local agricultural development dept prefer constructing the rural infrastructure to subsidizing the fund directly to farmers. This will directly benefit farmers and reduce their production risk.

4. Comments and Suggestions of Farmers

a. The company shall provide good seed combinations to farmers.

b. The company shall provide a superior environment to farmers, increase the input into agricultural facilities at the seed cultivation seed, improve the local irrigation, traffic conditions, especially build some mechanized farming roads in the future to reduce farmers’ labor intensity.

c. The project organizer is expected to advance the initial production fund. Farmers hope to buy fertilizer on credit and repay the money to the company after harvest.

d. The price must be reasonable and the income on seed cultivation shall be higher than that on regular paddy planting.

e. Risk sharing. In case of natural disasters, the company shall give compensation to farmers.
5. Opinions and Suggestions of the SA Team

a. When farmers are driven by scientific research public institutions, there will be great advantage in technical training to convert the leading-edge technical achievements into productivity quickly.

b. This project concerns the grain security of the state. With the reduction of tilled land in China, the increase of unit area output is crucial and has major social value.

c. Farmers’ trust in this public institution is relatively higher and expectation of project risks is less. However, the public institution is often bureaucratic. Every effort should be made to avoid unclear responsibilities, rights and interests.

d. The base selected for the project is an old seed cultivation base, which is good to the execution and operation of the project. Considering the economic condition of the old base is better than a non seed cultivation base, it’s suggested to expand the base to some non seed cultivation base rural areas with suitable conditions but with poor economic conditions to drive the enrichment of local farmers.

e. The planning shall ensure farmers’ interests and define the purchase of seed at the protective price.

f. What the executive unit needs urgently is a seed cultivation system and test system, to which the World Bank fund should support, because the executive unit is a public institution without enough current funds.

g. 50% funds shall be directly used on farmers. How to define “direct” is a major issue, the explanation of which will affect the fund allocation and should be stipulated by the World Bank. According to the SA Team’s investigation, we thinks such funds include the funds for public infrastructure construction in the affected area, project construction subsidy or loan discount interest and funds of support to the poor, and in principle exclude the funds for the company’s capital construction that will indirectly benefit farmers. It should be pointed out that, indirect benefits are not necessarily less than direct benefits. The benefits from the direct use of funds on farmers are not necessarily higher than the benefits to farmers from the indirect use. In some special indirect investments that can benefit farmers, it may be considered to provide support with the World Bank fund, however, the ownership thereof shall belong to farmers or the local agricultural development department. The profit therefrom may be used to enlarge the project construction or construct other agricultural development projects (this also applies other World Bank projects).

h. Seed cultivation has its particularity in need for a relatively closed, pure environment. If a family somewhere does not participate in seed cultivation, there might be some adverse impact on the seed quality, which must be coordinated by the 2 village-level committees with administrative binding force. Accordingly, it’s not enough to rely simply on the bondless seed association with little coercive power.
II. Nuisance Free Vegetable of Changsha County

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Changsha “Green World” Agricultural Technology Development Co. Ltd.</th>
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<tbody>
<tr>
<td>Technology support Unit</td>
<td>Zhejiang Provincial Academy of Agricultural Science, Central China Agriculture University and Hunan Provincial Academy of Agricultural Science</td>
</tr>
<tr>
<td>Construction site</td>
<td>Changsha County</td>
</tr>
</tbody>
</table>

Main construction contents

1. Establish 1 hectare factory green houses in seeds raising, and 1 hectare factory vegetables green houses for aquacultured vegetables; 2. Newly dig 10 electromechanical wells, build 5 km of mechanized farming roads, build 18 km of U-type concrete channels, dig 5 electromechanical wells; 3. Newly establish 1273 m² of package rooms for cleaned aquacultured vegetables, and 1200 m² of exclusive agency and gate towers for nuisance free vegetables; 4. Newly establish 2 GJP 80 multispans plastic big sheds of 6400 m², and 346 GD-60 small-type mono-membrane plastic sheds of 69200 m²; 5. Establish a demonstration base of nuisance free vegetables of 10 thousand mu, bringing 20 thousand mu along.

Major techniques to be demonstrated and popularized


Economical benefits

The annual sales revenue will be 119 million Yuan, and the tax to be handed in will be 9.84 million Yuan. The net profits will be 7.5 million Yuan. The rate of duty and tax of investment will be 22.74%. The recovery period of investment will be 6.3 years (including construction period).

Social Benefits

The annual increased income per peasant of the project area will be about 1000yuan and 13 thousand posts will be increased for rural people including 6.5 thousand for women. The popularization rate of fine breed vegetables will reach 100%, and the advanced and suitable agricultural technology will be popularized and supplied, so the technology quality of farmers will be improved obviously. It will help to improve the ecological environment by economically utilizing water resource, and controlling and minimizing agricultural pollution.

(II) Affected Area, Affected Farmers and Project

The project demonstration area covers 10 administrative villages in Huangxing Town under Changsha County, including Shuangping, Xinchongzi, Shuangqiao, Juantang, Yangtuo, Jinyan, Ronghe, Jinfeng, Guihua and Taiping. The demonstration area is 8.3km by highway from the urban area of Changsha to the west. In the area, there are 5045 farmer families, 22704 farmers, 12518 agricultural laborers, including 5682 women laborers, 23400mu tilled land, 28750mu year-round grain crops, 13200mu vegetables, 2316mu flowers and saplings.

The key source of household income of farmers in the project demonstration area is paddy rice. Farmers’ income is low and the continuous cropping of paddy rice makes soil deteriorate
year by year, generating a vicious circle. In addition, farmers master little regular agro-tech, know much less about techniques to improve output and quality. The agro-tech demonstration and popularization under this project will just bring advanced, practical techniques to them.

The SA Team has made a field investigation on Juantang Village in Huangxing Town.

There are many years of the habit of vegetable planting at Juantang Village, where villagers have formerly planted anti-season vegetables but lacked market information. For example, Chinese cabbage was sold at 1yuan/catty in spring and 0.5yuan/catty in winter, sometimes even 0.08yuan/catty. Now their alliance with the company will improve this situation. Most interviewed farmers think the project can bring benefits to them, mainly in solving problems in marketing, vegetable brand and quality. Villagers also believe that the “company + farmer” pattern will be effective, because it can organize farmers to face a broader market and form an integrated major brand.

Villagers thereby fully support this project. They say, now paddy rice is cheap, planting paddy rice would sometimes lose money, but vegetable planting is more profitable. The secretary of the village Party branch introduces that 1mu vegetable can bring above 2000yuan a year, but paddy rice can bring almost no money.

Villagers welcome the infrastructure construction and free technical training planned under the project and hope the project can be launched earlier to relieve them of poverty. Villagers hope the government can play a supervisory, managerial and supportive role in the project and are satisfied with the government’s prior work.

Village cadres think, the 2 village-level committees’ key role is organization and coordination. It’s impossible for the project to be executed without the support of the 2 committees, which can partially participate in the production management and can represent farmers’ interests in any conflict between the company and farmers. In addition, the function of the 2 village-level committees and other grassroots organizations will not be weakened in the “company + farmer” pattern but will be enhanced.

For the project’s execution, villagers worry about such risks: the company does not purchase products in full; unreasonable purchase price; low vegetable output; natural disasters; damage by disease and insect.

Attached:

**Villager Interview Case 2:**

Deng Lijun, female, 36 years, graduate of senior high school.

I plant vegetables and raise pigs at ordinary time. My husband deals with construction works in Changsha, which is a hard labor. My son is studying at Grade 6 of primary school. I’m in charge of the whole family. He returns home once a week and would be back to help me in the busy season.
My husband’s wage is 600-700 Yuan/month, I earn 3000-4000 Yuan/year on raising chicken and duck, our household income is medium. All housework is my responsibility. I have the greatest power in the family, the participation in the project was my decision. I was the first one to sign up for technical training, which covers vegetable planting techniques.

I hope when the company recruits employees in the future, I can get a suitable job there. After that, I can also spare my time to manage the home. There is only 1 mu land remaining of my family un-requisitioned, 5.7 mu has already been requisitioned under the contract. I think the project will not fail, we believe in the government. The project has no risk, because I have confidence in the company’s technique.

Seasonal chart:

Jan-Mar Play cards, grow vegetables
Apr-Jun Harvest early rice, fertilize at the end of Apr, apply weed killer and pesticide, watch TV and newspaper, chat
Jul-Sep Repeat early rice procedure, harvest late rice in Sep
Oct-Dec Slack season

Daily activity chart in busy season:
6:00-7:30 Get up, cook and eat breakfast
8:00-12:00 Do farm work
12:00-13:00 Cook and eat lunch
13:00-18:00 Do farm work
18:00-22:00 Cook and eat supper, watch TV
22:00 Sleep

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The company has already built a sound basis for green vegetable production. Certification and trademark have been obtained, production system has been streamlined, technical support is being obtained from the Vegetable Research Institute and a contract farmer system has been set up. The company receives strong technical and scientific support and the business concept appears sound. The mission proposed to continue working with this proposal and to develop it further. The mission discussed the proposed shareholding arrangements for farmers, which is an interesting approach to participate farmers in the business affairs of such researcher-company-farmer arrangement. The mission requested further details about this shareholding
arrangement in particular about the transfer rights of farmer shares and a clear description of the selection criteria for the participating farmers, which should show a strong poverty focus. Works on several components have already been started. Those include the construction of the hydroponic greenhouse, the products processing room and the sales center. The mission emphasized that such ongoing or contracted works must be financed by counterpart funds and cannot receive reimbursement from a World Bank loan.

2. Comments and Suggestions of POCAD

a. The foundation is good, there is a long history of vegetable planting in Huangxing Town.

b. Benefit local farmers by increasing their per capita income by 1000yuan.

c. There is unique geographic advantage and great demand.

d. The development of nuisance-free vegetable complies with the trend of agricultural development.

e. The technical forces are strong, with the direct participation of Changsha Vegetable Institute.

f. Farmers’ benefits can be guaranteed: their practice of equity participation by land is worth popularization. Farmers can benefit from shares.

g. The ownership of the infrastructure cannot be told for farmers or the company.

h. The contract should fix a protective price. If the market price is lower than the cost, farmers would sustain losses.

3. Comments and Suggestions of Project Company

a. Equity participation by land is an initiative and worth trial. Farmers don’t have much cash for shareholding, this form of equity participation may benefit farmers and is irradiative for other agricultural development projects. However, since this form is still being tested, the World Bank’s guidance will be necessary.

b. The fund should be in place as soon as possible, or the company is allowed to start the project construction in advance.

4. Comments and Suggestions of Farmers

a. The project can be launched as soon as possible to relieve their poverty. If the project is not started immediately, the company will be unable to build the vegetable factory and they will be unable to plant vegetables.

b. Invest in the local infrastructure.

5. Opinions and Suggestions of the SA Team

a. This project’s executive unit is a joint-stock corporation newly set up, which contains shares of farmers in the project demonstration area in the form of land and shares of the Changsha Nuisance-free Vegetable Development Fund. This operating
mode is novel and worth concern. Based on the current feedback, farmers welcome this mode. Its future effect is to be proven by practice.

b. The preparatory work is well done, the project company has almost completed a modern vegetable greenhouse and has a good business philosophy.

c. The technical forces are solid, involving 3 scientific research units.

d. The affected area is located beside the Liuyang River, where the soil contains sand and is suitable for vegetable growth, there is geographic advantage for the project.

e. This project has a good prospect, because it meets consumers’ idea of nuisance-free foods. Meanwhile, with the acceleration of urbanization of the Changsha suburb, the affected area is increasingly providing vegetables to Changsha residents.

f. It is a beneficial trial to make organization in the form of farmers equity participation by land, which is good to forming the scale of production, practicing unified planting, unified management and unified marketing. What the SA Team worries about are the fairness and transparency in dividend distribution. To avoid black-box operation and skimp farmer’s dividend on land shares, it’s suggested to retain an independent audit organization for financial supervision to guarantee farmers’ legal proceeds.

g. This form of shareholding can also be extended to other purposes of the World Bank fund in this project. Since the land becomes shares, farmers don’t have to invest, the investment is used on vegetable greenhouses, storage facilities and machinery built by the company in a centralized manner. To satisfy the World Bank’s requirement on fund use, this fund may also be operated as the shares of farmers and the agricultural development office, so that the fund can be used properly and the company’s demand for large-scale investment can be met. Meanwhile, any dividend on such shares may be used to support local farmers to develop other projects or deepen this project.

III. High-quality Melon and Fruit Farm Production of Shaoyang City

(I) Project Background

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<th>Construction Unit</th>
<th>Hunan Xuefeng Farm Production Co., Ltd</th>
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<td>Main construction contents</td>
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<td></td>
<td>1. Technologic service center: 1000m² civil works and instrument equipment;</td>
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<tr>
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<td>2. Seed production base: 5000m² singlespan sheds, 1000m² greenrooms and a 400-hectare production base; 3. Seed processing: 700m² civil works, 1000m² workshop reconstruction and the instrument equipment processing and keeping; 4. Factory seedling raising base: 10000m² singlespan sheds, 5000m² multispan sheds and seedling raising equipment; 5. Demonstration base for new varieties: 12000m² singlespan sheds and a 330-hectare demonstration base; 6. Melon and vegetable processing: 900m² civil works, 1600m²</td>
</tr>
</tbody>
</table>
workshop reconstruction and 3 processing production lines.

<table>
<thead>
<tr>
<th>Major techniques to be demonstrated and popularized</th>
<th>1. Anosis treatment technology for the seeds of melon and vegetable; 2. Factory seedling raising technology for melon and vegetable; 3. Anniversary planting technology for the new varieties of high-quality melon and fruit; 4. Organic ecologic type of soilless planting technology for the high-quality melon and fruit; 5. Facilities and gardening planting technology for the high-quality melon and fruit; 6. Merchantized treatment technology for the fruits and vegetables after pickup; 7. Processing technology for pumpkin flour; 8. Seven new varieties of high-quality melons and vegetables.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical benefits</td>
<td>After the buildup of the project, it is predicted that the annual new-added production value is 60.5 million yuan, annual new-added profits 9.15 million yuan and annual new-added revenue 6.44 million yuan.</td>
</tr>
<tr>
<td>Social Benefits</td>
<td>After the buildup of the project, the peasant can get the profits of 20,000yuan from the high-quality melons and fruits per hectare, about 7200 labors are employed and the farmers of 20,000 person/time are trained. The radiating area of the new varieties is 40,000 hectare which increase the incomes of 800,000,000yuan for the farmers. The implementation of the project can also improve the level of planting for the peasant and the standard of living and health for the people impelling the agricultural industrialization.</td>
</tr>
</tbody>
</table>

(II) Affected Area, Affected Farmers and Project

Farmers’ participation in this project has 2 parts, namely seed cultivation for melons and fruits, production of commodity melons and fruits. The seed cultivation is distributed in Wugang City, Xinning County, Chengbu County and Xinjiang; the production of commodity melons and fruits is found in Shaoyang County, Daxiang District, where most parts of the base are peripheral hilly areas. The affected area has 10 villages, 898 affected farmer families, 2987 people, 918 laborers (198 women laborers), 3 poor villages and 563 poor families.

This project’ beneficiary groups are mainly the company executing this project and melon farmers participating in the project. According to the project planning, farmer beneficiaries are mostly farmers and women in poor mountainous areas. The project execution will benefit affected farmers at least 3 aspects: 1) significant increase in income by 600yuan/mu, which will speed up the poverty relief of farmers in mountainous areas; 2) improve the living and production conditions in the affected area; and 3) through technical training, melon farmers will master certain scientific planting techniques and advanced business philosophy, increase the technological and cultural accomplishment of farmers in mountainous areas.

At present, farmers participate in the project in 2 ways, 1) contractual order agriculture, where the company and farmers enter into a production and sales contract, the company shall offer seed and seedling, technical training, technical guidance, production regulations and purchase products at the protective price, while farmers organize production in strict accordance with the production regulations; this is the most widely applied mode; 2) through folk organization, which is a link between the company and farmers. A service company must be established to coordinate with the project company. The service company can either be established by the township government or the 2 village-level committees, or set up spontaneously by farmers.

The SA Team has made a field investigation on Xintang Village in Tanjiang Township under Shaoyang City, a project execution location.
Xintang Village is a poor village in Tanjiang, located north of Tanjiang, 20km from the urban area. It neighbors on Heye Village to the east, Shaoyang County to the west, Fengxing Village to the north and Dongfeng Village to the south, with a total area of 3km². The village has 25 villager teams, 426 families, 1676 people, 880mu paddy field, 180mu dry land, 1000mu hilly land and per capita net income of 630yuan. The village’s infrastructure is backward and water conservancy conditions are extremely poor. There is a dilapidated reservoir, 68mu hill pond and 7000m canal, all out of repair. There are only one 4m-side township highway and 2 team passages, the economic structure is also irrational. By now, there are still 34 families living on relief, 48 extremely poor families and 420 poor people.

Xintang Village is the quality melon demonstration village of Hunan Xuefeng Seed Limited this year, where 120mu small-fruit melon is planted. Since this company provides seeds, techniques and sales services gratuitously, the trial planting in this year was successful, with the highest per mu yield of 3600 catty, output value of 4000yuan and average per mu output value of 2500yuan. For example, Xia Zhengquan plants 4mu this year, the per mu output value is 3500yuan, he has become the richest man among melon planters in the village. The 2 village-level committees have made up their mind to take quality melons and fruits as the preferred project for poverty relief of this village and plans to grow 150mu by autumn. Now they have entered into contract with Hunan Xuefeng Seed Company, hoping this company can support their planting of quality melons and fruits as it did in this spring.

Attached:

Villager Interview Case 3:

Peng Heying, female, 52 years, graduate of primary school

Our family has 5 members, 4mu land, my son and his wife are working in Shaoyang, I take care of their child. Before planting small melon, we planted peanut, bean, paddy rice, seedless melon, etc. Since 2003, I began to plant small melon. Both my husband and I deal with farm work, spending above 90% of our time on farming. Products were previously on sale at the market, 1mu seedless melon could be sold at 1000yuan at most, and we would carry melon to the buyer’s home. The total income in 2002 was over 2000yuan, the key source of household income is farming. The expenditures include fertilizer cost and entertainment expenses, which were 300yuan and 1000yuan respectively in 2002. The income of this year is anticipated to be 4000yuan more than the last year, 2 seasons of small melon can be planted.

At the beginning of our planting small melon, there was a dispute between my husband and I. I didn’t want to plant it but seeing other making a profit on it changed my mind. I knew this company in the past but have never bought any seed there.

In 2001, this company was popularizing autumn small melon Xufeng I and II at the adjoining village with guaranteed recovery. The market was not opened up at that time because they dealt with small area operation and seedless melon occupied the market with low prices, the variety of autumn small melon could not occupy the market for its high price. However, the
adjoining village’ farmers didn’t sustain a loss because the company purchased their melon at the protective price.

Things to be improved now include: traffic, fertilizer, melon rack. We’re less closely related to the company, because no industrialization chain is in place, but we have an affinity with technicians. The public has greatly increased their income from this project.

The labor intensity of melon planting is small, we don’t need any special measure to care for women. If the profit is high, those working outside will return home to plant melon.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The proposal is recommended for further consideration under the proposed project. It offers

- Innovative technology that distinguishes the company and its operations from the main stream horticultural industry;
- Extensive farmer involvement in a specialist seed multiplication business and the opportunity to increase incomes through the sale of seeds and fresh produce.
- Supportive technology outreach that should safeguard farmers production environment and allow a substantial increase in farmer participation.

The proposal recognizes that it will be difficult to significantly raise farmer incomes through simple seed multiplication and the company intends to develop a wholesale fruit marketing operation that would add value to fresh fruit production. However, the wholesale/retail fruit market is highly competitive and the company does not bring any new skills or technology to this operational area.

To assist the company strengthen its proposal it is suggested that,

- The company investigates mechanisms of providing participating farmers with a shareholding in the specialist seed and on-processing businesses that would, in addition to its loyalty implications, allow farmers to financially benefit from the company’s end product sales. Under the proposed project it could be possible to provide farmers with an equity contribution in the company through a loan/venture capital (subsidy) arrangement that would finance the company’s building and equipment requirements in its proposal.

- In addition, the development of roads and irrigation facilities in the outreach production areas (demonstration bases) for seed multiplication and new varieties could be financed through SOCAD’s established procedures.

- The annual provision of seedlings and fertilizer in the proposal should not be subsidized but it could be on-lent to farmers at prevailing seasonal loan terms through a revolving credit fund or negotiated through ABC’s lending channels.
2. Comments and Suggestions of POCAD

a. There are very good experts and techniques, this company is restructured from the Hunan Melons and Fruits Research Institute, its general manager is a technical expert.

b. Before this project, there have been close relations with farmers.

c. The market risk is not great, because the marketing system and the technical system have been set up, now products are undersupplied.

d. By staggering seasons, fruits may be planted after paddy harvest, increasing the tilled land’s utilization ratio.

e. The degree of benefit of farmers is very high, 56% funds have been used on farmers. By ordering, great proceeds can be got. The World Bank has made a high evaluation, the Provincial Agricultural Development Office (PADO) also thinks things are well done.

3. Comments and Suggestions of Project Company

a. The project has been fully investigated and demonstrated, the basic work is almost completed, the local government pays high attention to the project, farmers are eager for the project. In the early stage, the site of the farm products processing yard has been selected and the intent of equipment purchase has been reached with relevant units. If the project can be established sooner, it can be well executed and operated.

b. The company has certain technical advantages and marketing strategy in planting and seed cultivation. Although we’ve got certain foundation in further processing of farm products, have been devoted to this task and cooperated with relevant scientific research institutions, we still lack some senior management, marketing and technical personnel, who will be trained or recruited from the society.

c. When this project deals with seed cultivation for melons and fruits, simply seeds are processed, the processing of pulp is very rough, except that a small part is for eating, most pulp is used to feed pigs, buried or wasted. If there is any processing equipment available for further processing, farmers’ income may be greatly increased, there will also be a new point of economic growth for the company.

4. Comments and Suggestions of Farmers

a. The company shall underwrite melon, provide technical guidance, improve the local traffic conditions and offer quality melon seedlings.

b. The government shall provide other projects to generate diversified operations along with melon planting to reduce risks.

c. When farmers are in dispute with the company, the government shall uphold farmers’ interests and plead for the people.
5. Opinions and Suggestions of the SA Team

a. This project has been preliminarily executed and got strong echo from local farmers, because this project can generate income in the year and the practice in this year has proven that, the net income is considerable at 3000-4000yuan/mu.

b. The company is reorganized from a research institute and has got systematic support. The general manager is a technical expert and a holder of proprietary techniques, so the technical support to this project is out of question. While supporting farmers to become rich, the project can effectively drive the conversion of hi-tech achievements, bring economic benefits to the company and society.

c. Since farmers’ zeal for planting is high, the SA Team worries that precipitate planting by the crowd will bring more or less market risks and then suggests determining the scale of the affected area according to the market conditions learnt by the company. It’s preferable to construct the project step by step.

To improve the executive effect of the project, the SA Team suggests:

a. Further perfect the “company + farmer” pattern, organize numerous farmers for large scale production with the company an the leader and benefit as the tie. Formulate a unified standard procedure with reference to international practices, strictly control the quality to ensure all parties’ interests.

b. Strengthen the scientific research and increase inputs in science and technology. Be focused on independent scientific research, also introduce techniques to form the market mechanism for industrialization of hi-tech for melons and fruits, improve the product quality, drive the progress of agricultural industrialization, broaden the range of varieties under scientific research and set up a backup bank of varieties.

c. Strengthen the product advertisement and create an international brand. Highlight the concept of “green, nutrition” in advertising, with the topic of “green food and healthy life”, conduct production pursuant to the international standard, pay attention to the perfect combination of internal quality and exquisite package. Improve products of the existing brand “Xuefeng” and increase its international awareness.

d. Based on the existing marketing network, enlarge the scale of demonstration and the sales force, harmonize the channel of circulation, set up offices in major cities and key areas of popularization, find agents properly, gradually form a chain operation ad goods delivery system, increase the share in the international market.

e. Pay attention to market information, master market demand changes timely, set up an information network, increase the investment in informatization, strengthen the sale of products according to market demand and price changes, timely adjust the ratio of commodity melons and fruits to processed products to guarantee the durability of economic benefits.
IV. “Green” Yellow Day Lily Project of Qidong County

(I) Project Background

| Construction Unit                  | Hunan Qidong Huanghua Group Co., Ltd. |
| Technology support Unit            | Hunan Agricultural University         |
| Construction site                  | Qidong County                         |
| **Main construction contents**     |                                          |
| 1. Demonstration base for growing of “Green” Yellow Day Lily with a demonstration area of 667 ha, and a lining flood-relief channel 14311m long and a lining waterlogging-relief channel 3580m long; 5 pieces (sets) of sluice gates of the flood-relief channel; 5 seats of over-channel bridges. |
| 2. Expanded construction of the deep processing base of “Green” Yellow Day Lily; a set of freezing vacuum drying equipment to be purchased; 2 sets of tunnel flow condition quick-freezing equipment to be purchased; 2 transportation vehicles to be purchased. |
| 3. Farmers of 4000 person/time to be trained. |
| **Major techniques to be demonstrated and popularized** |                                          |
| 1. Cultivation techniques of nuisance free day lily; 2. Technique of processing of freeze-drying day lily. 3. Technique of processing of quick-freezing and fresh keeping day lily. |
| **Economical benefits**            | Annual sales revenue of 129.6108 million Yuan and the tax to be gathered of 7.4075 million Yuan and net profits of 10.368 million Yuan. Investment tax rate of 52.03%, and the rate of return on investment of 29.22%, an investment recovery period of 7.1 years (including construction period) |
| **Social Benefits**                | The percentage of agricultural science and technology contributing to agricultural economic growth shall be increased 13 percent and the annual net average revenue of the farmers shall be increased 360 Yuan; and 14000 women shall be employed; and benefiting the demonstration and popularization of the advanced and applied agricultural techniques; improving the scientific nature of the farmers and obviously improving and perfecting the agricultural scientific service functions of the item areas. As the extension of the vegetable-basket project, this project will provide the society with nuisance free, low-remaining and plentifully nutritious “green” foods. |

(II) Affected Area, Affected Farmers and Project

Affected farmers are distributed all over Qidong County, the demonstration is located at Puzi Village in Hongqiao Village.

The SA Team conducted a field investigation on Luojiang Village under Shitingzi Town, one of the project execution location.

Every farmer family at Luojiang Village has 2-5mu of yellow day lily, which had seldom been planted before 1993 until 1994, because Huanghua Group purchased products at a protective price. The income on 1mu may be 3000-4000yuan, equivalent to that on 10mu paddy rice.

Attached:

Villager Interview Case 4:

Deng X, female, 42 years, graduate of primary school.
My family has 13 members, all living on yellow day lily. Now my children have graduated from university and found a job, all thanks to Mr. Li Yingwu (Board Chairman of Huanghua Group). We began to plant yellow day lily since 1993, my children’s educational expenses came completely from yellow day lily. In the past, my family planted 15mu and the price was 5yuan/catty. The cost of 1mu is 120yuan, the income thereon is above 4000yuan. Now my children are working, my husband and I plant 2mu yellow day lily only, earning 9000yuan a year. The planting technique of yellow day lily is easy, everyone knowing to plant vegetable can plant it.

The “company + farmer” mode is good, the boss is kind to villagers I’ve entered into contract with the company. My suggestion is the company shall expand its workshop, enlarge its scale of production and guarantee its price.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The mission supports this proposal to be included under the project. The mission requested to target the use of project funds to activities of direct benefit to the producers. Assets owned by the company such as the proposed large-scale freezing equipment should not be financed with project funds but by the companies own resources.

2. Comments and Suggestions of POCAD

Provincial project officials think this project is fairly perfect, because:

- a. The industrial foundation is good, most yellow day lily of China is produced here, there are nearly 400,000 farmer participants.

- b. The local government pays high attention to the project. The project company is a state key leading enterprise for agricultural industrialization, to which the state has allocated land gratuitously. It has set up a new processing plant in Hengyang, further enhancing its strength and processing capabilities.

- c. The marketing network is sound, the market occupation is high, the company has the power to deal with import/export operations.

- d. Farmers’ expected income is significant, the purchase price is increasing every year.

- e. Main participants are women.

- f. A protective price is fixed.

The key problem is focused on processing, which has also been proposed by the World Bank. It is suggested to address this with the counterpart fund and self-raised fund.

3. Comments and Suggestions of Project Company

- a. The company thinks, if the fund is not focused on deep processing, it can hardly deal with enlarged source of raw materials, there might be difficulty in vegetable selling.
b. Accordingly, it hopes the World Bank fund can be partially used to support the link of deep processing, the company is also prepared to construct the processing plant with the counterpart fund and self-raised fund.

4. Comments and Suggestions of Farmers

The company shall expand the workshop, enlarge its production and guarantee the price.

5. Opinions and Suggestions of the SA Team

a. Since the harvest of yellow day lily depends on climate, a considerable part of the project fund will be used to construct and maintain water conservancy facilities to enhance the material conditions for farmers to resist risks. Local farmers can benefit therefrom for a long term.

b. Some villagers hope that the project fund could be used to improve the local traffic conditions, the SA Team thinks if possible, the road renovation the affected area can be supported.

c. Since the “green” yellow day lily cultivation technique popularized under the project directly determines whether yellow day lily planted by farmers can meet the quality standard. Therefore, the company shall provide a detailed technical training program, including time, location, expected audience, teaching technicians, teaching method, so that the World Bank and agricultural development dept can conduct monitoring and supervision.

V. Beef Cattle Project of Lianyuan City, Hunan Province

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Tianhua Stock Raising Co., Ltd of Hunan Wujiang Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Heredity &amp; Growth Biology Research Institute of Chinese Academy of Sciences</td>
</tr>
<tr>
<td>Construction site</td>
<td>Lianyuan City, Hunan Province</td>
</tr>
</tbody>
</table>

Main construction contents

1. In the donor cattle breeding farm invest 204.1×10⁴ yuan in all kinds of civil works construction, invest 78.1×10⁴ yuan in breeding, power and drainage equipment: and embryo cut transplantation and 152.8×10⁴ yuan in fresh specimen selection equipment:; 2. Invest 1540.8 ×10⁴ yuan in the donee cattle base including cattle house construction, feedstuff preparation, donee cattle introduction, and environment protection; 3. Invest 255.3 ×10⁴ yuan in technology service station construction including stud bull and Taiwan cattle breeding facilities and technology service facilities construction; 4. Invest 391.4 ×10⁴ yuan in the slaughterhouse construction including the rebuilding construction of the plant house, the slaughtering production line equipment and refrigeration facilities as auxiliary matching facilities

Major techniques to be demonstrated and popularized

1. Technique for breeding of the fine breed cattle by a stress in embryo cut and transplantation; 2. Technique for the fine breed hybrid beef cattle breed reform using artificial insemination; 3. Technique of standardized fattening of beef cattle; 4. Technique for ensilage animation of feedstuff 5. Technique for methane development & usage and animal husbandry ecological breeding; 6. Technique of plaque and disease prevention & treatment

Economical benefits

After the project is put into production, the annual sales revenue is 13364×10⁴
yuan and the annual profit tax revenue $3205 \times 10^4$ yuan.

<table>
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<tr>
<th>Social Benefits</th>
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</table>
| 1. Increase the cattle breeding technique contribution rate, as a result, the annual increase of fine breed beef cattle is 23500 heads, its development speed is forth times as before; 2. Form a industry chain from embryo cut transplantation to the reform of fine breed cattle to beef cattle slaughtering and processing to accelerate the transformation of the technological fruits; 3. In the project the revenue of the annual increase of fine breed cattle and fine breed hybrid cattle is $6640 \times 10^4$ yuan and attain the net profit of $3895 \times 10^4$ yuan which can benefit $2.5 \times 10^4$ households of farmers and every peasant can get a net profit increase of 1558 yuan.

(II) Affected Area, Affected Farmers and Project

The core areas of affected farmers are 14 key townships under Lianyuan City, of which the donor cattle cultivation farm is located at Shimashan Town in Lianyuan City, the beef cattle slaughter and processing plant is located at Yangshi Town in Lianyuan, 1200 typical breeders and 14 technical service stations of the acceptor cattle breeding base are distributed in towns under Lianyuan City. These townships have many hilly lands, rich natural and crop resources, and are also undeveloped areas.

Lianyuan City is located at the hinterland of Middle Hunan, upper reaches of Lianshui River. It now governs 20 townships/towns, 917 farming villages and 10 state farms. The city has an area of 1896.87km$^2$, 630,000mu tilled land, including 420,000mu paddy field, 210,000mu dry land and 400,000mu grassland/grass slope. There is a total population of 1.07 million people, of which the agricultural population is 916,000, 480,000 rural laborers and 100,000 exported laborers a year. Lianyuan features hilly land, mild climate and distinctive seasons, suitable for stockbreeding, being a typical farming city. Its main farm products include paddy rice, sweet potato, soybean, citrus, tealeaf, pig, cattle, black goat and poultries. In 2001, the city’s GDP was 2.817 billion yuan, agricultural gross output value 1.33 billion yuan, gross grain output 406,000t, released amount of live pig 750,000 heads, released amount of poultry 3.98 million individuals, per capita farmer income 1638yuan. Lianyuan has harsh natural conditions, weak economic base, poor infrastructure, backward traffic, communication, culture and education, so there are vast poor rural areas. By 2001, 495 villages had per capita farmer income of less than 1200yuan, covering 488,300 people, accounting for 54% of the agricultural population of the city; of which there are 154 villages and 135,000 people with per capita farmer income of less than 865yuan, accounting for 14.7% of the agricultural population; and an extremely poor population of 22,800 people with per capita farmer income of below 625yuan.

The SA Team has made a field investigation on Maogongyan Village under Fukou Town in Lianyuan, the project execution location.

The village has 210 families, of which 72 ones raise 398 heads of cattle in cooperation with the company. Above 100 people of this village are working outside, mostly at the Anhui Coal Mine, earning 4000-5000yuan/year on average.

The company has introduced breeding cattle from New Zealand and allocated to rural areas for breeding. A calf of 6-8 months can be sold at 8000-10000yuan. Farmers raise pregnant cattle and the company would recover calves of about 6 months, paying 1900-3000yuan to...
farmers. A cattle raising association has been set up, which has entered into contract with the company. Villagers’ difficulties in participation in the project include: 1) no fund to set up a cowshed; 2) low overall literacy of villagers; and 3) inconvenient traffic.

Attached:

Villager Interview Case 5:

Li XX, male, 45 years, graduate of junior high school, Secretary of Village Party Branch.

My family has 3 members, 0.95mu paddy field, 0.8mu dry land and some hilly lands, mainly growing paddy rice and sweet potato. The sources of household income include farm products and pay for work, the annual gross income is 4000yuan. My household expenditures mainly include the child’s tuition and living expenses. Our cattle is raised by my wife and I mainly do farm work.

We cooperate with the company because the government provided information then, saying that Tianhua Company would distribute cattle at poor mountainous areas. After negotiation between the town leadership and Tianhua Company, the company and the Municipal Poverty Relief Office came to the town 4 times before distributing cattle to us. In Oct 2002, the first batch of cattle included 280 heads, all cows, with a deposit of 200yuan/head and an insurance premium of 20yuan. When a calf grew to about 500 catty, it was sold to the company at 8yuan per kg. There is no income so far, artificial fertilization has been made, the cows will not bear calves until 9-10 months later. There are already 154 bred cows at the village.

My family raises 5 cows (3 in the first batch and 2 in the second), the first batch has been bred and will bear calves 8 month later; the second batch is not bred yet. A cow can be bred when it is above 1 year old.

I have contributed much to our village’s cattle raising industry, I’ve organized a cattle raising association and acted as chairman. The association coordinates with Tianhua Company, the Municipal Poverty-relief Office, Municipal Stockbreeding Bureau and Municipal Agricultural Bureau, now the Poverty-relief Office offers a subsidy of 10yuan/m² for a cowshed, 800yuan for a methane tank and 30yuan/m³ for a silo tank.

The contract was signed by the farmer association in coordination with the company, the company dares not breach the contract, because the cattle is on my hand. I think farmers are the most benefited, because 1) we’ve covered insurance; and 2) we have the support from the company, municipal and town government. We hope the company can continue to support us to raise cattle and ensure every family has 3-5 heads of cattle.

Techniques are specifically coordinated by the association, the company has set up a technical service station nearby, where a standing technician offers free guidance and inquiry. When our cattle falls sick, we would find the technician and pay him the cost price for treatment. As for technical training, there was 2-day centralized training before cattle distribution, training was later given once every 2 months.
We’re now returning land from farming to grassland and hope that the government can offer technical guidance and raise funds. All of us think the mode of poverty relief employed by the government is good, better than direct financial aid. We’re all satisfied with the government’s effort in the project.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

Although the present proposal has components that are not considered suitable for project financing, the proposal’s concept is recommended for further consideration under the proposed project as it offers,

- Innovative technology and marketing options;
- Extensive farmer involvement including households that have not previously owned cattle and the opportunity to substantially increase incomes through the production and sale of high quality beef.
- Supportive technology outreach to improve and safeguard farmers’ production environment and allow a substantial increase in farmer participation.

To assist the company restructure and strengthen its proposal it is suggested that,

- The company rethink its proposed investment in a donor breeding herd of pure bred Aberdeen Angus cattle. There now exists in China substantial genetic resources of most exotic breeds and it is likely that high quality frozen embryos can be competitively purchased so obviating the need for a company breeding herd. Also it is unlikely that a breeding herd or a slaughter facility would qualify for financing under the project as neither offer innovative technology investment.

- However, the development of the farmer production base through providing the means to acquire household breeding herds of local cattle and, through the provision of a field level technical service a supply of high quality embryos and semen, does provide the opportunity for farmers to access the profitable supermarket and hotel beef markets and substantially increase their incomes. Household breeding herds do not need to be financed by a subsidy as experience elsewhere in China has shown that these enterprises are able to borrow and repay loans. Establishing a revolving fund for financing household herds would allow for a continually expanding farmer household production base.

2. Comments and Suggestions of POCAD

Provincial project officials think:

a. This project is accordant with the agricultural industrialization policy in Hunan: use great forces to develop the grass-eating stockbreeding.

b. This project is greatly beneficial to the poverty relief of farmers, there will be 25,000 benefited farmer families. Lianyuan is a provincially poor county, where many small
coalpits have been closed these years and farmers have the urgent need to find other ways out. This project will help solve this problem.

c. The project’s technical level is high, Canadian experts are retained. The survival rate of embryo transplantation is up to 80-90%.

d. The provincial government has invested heavily on agricultural development (used to support processing, develop pasture and cattle raising) for nearly 10 million yuan, and allocated 1200mu land gratuitously, enacted a series of preferential policies and conditions in support of the company’s development.

e. The executive unit is a subsidiary of a large nongovernmental business, which has close relations with farmers.

PADO proposes the following suggestions:

a. Since the embryo transplantation technique advanced and hard to master, technical experts must participate closely in the project to play their important part.

b. The World Bank shall support the processing link this project of this project and set up a slaughterhouse.

c. Measures should be taken to improve the overall competency of business managers.

3. Comments and Suggestions of Project Company

a. The government shall use the poverty relief fund to share the project risks with the company.

b. The project fund shall fully support the processing link of the company.

4. Comments and Suggestions of Farmers

a. Provide the initial startup fund to farmers, including the loan to build cowshed and buy feed.

b. Fund the local road construction, farmers can participate in this by inputting labor.

5. Opinions and Suggestions of the SA Team

a. The project execution area is a typical poor area in Hunan, where affected farmers are mostly distributed in mountainous areas and can hardly find a way to become rich. This project is undoubtedly a timely help to them.

b. Based on the village investigation, this company’s present cooperation with farmers is favorable to farmers, who have almost not undertaken any risk. What the SA Team worries is, such practice might weaken the company’s market competitive power and finally affect the sustainable execution of the project.

c. The project company is a subsidiary of a nongovernmental business with mediocre strength and the competency of its staff needs improvement. Necessary training must be given to the senior and middle-level managerial personnel of this company.
VI. Milk cow embryo transplantation of Hunan Province

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Yahua Seeding Co., Ltd of Hunan Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Hunan Agriculture university, Canadian IND group</td>
</tr>
<tr>
<td>Construction site</td>
<td>Wangcheng County, Chengbu Miao Nationality Autonomous County</td>
</tr>
</tbody>
</table>
| Main construction contents | A. Construction contents of company  
1. construction of donor milk cow farm  
a. Introduce 400 heads of donor milk cow abroad;  
b. The whole construction area of the donor milk cow farm including milk cow house and milking room: 5190\(\text{m}^2\);  
c. 5 sets of supporting equipment  
2. Construction of embryo transplantation center  
a. The whole construction area of newly built embryo making room: 1720\(\text{m}^2\) and that of clean water pool: 200\(\text{m}^3\);  
b. 2126 pieces of supporting equipment (set, piece, box)  
3. Construction of scientific service system  
2126 pieces of supporting instrument and equipment  
B. Construction contents of farmers  
1. the whole construction area such as milk cow house: 16800\(\text{m}^2\) and that of ensilage vault and methane pool: 9000\(\text{m}^3\);  
2. 1000 heads of milk cow purchased home;  
3. 42 pieces of supporting equipment |
| Major techniques to be demonstrated and popularized | 1. The superovulation and impulsing technology for live milk cow;  
2. The species selection technology for the embryo transplantation of donor cattle;  
3. The embryo transplantation breeding technology;  
4. The embryo transplantation breeding technology;  
5. The seed introduction of superior pasture and plantation technology;  
6. The feedstuff processing technology;  
7. The milking and fresh keeping and processing technology |
| Economical benefits | Annual increase sales revenue: 200×10^4 yuan, Profit tax: 16×10^4 yuan |
| Social Benefits | In the project area farmers breed 4000 heads of milk cow and has annual increase of milk of 28000 ton, which can provide 1000 jobs for 500 households of cattle breeder. Annual increase income of farmers is more than 1816×10^4 yuan. |

(II) Affected Area, Affected Farmers and Project

This project has selected 2 affected areas, one is Wangcheng County at Changsha’s suburb, which will play a leading role for the province-wide economic growth and social stability; the other is Chengbu Miao Autonomous County with rich pasture resources and superior ecologic environment, which is a state-level poor county.

According to the investigation, the 2 affected counties have 259,100 rural laborers, of which most young adult male laborers are working in Guangdong and Shanghai, etc, 3/4 of farming laborers in the affected area are women, the remaining 1/4 male laborers are mostly elderly or weak. Accordingly, the embryo transplantation and cow breeding tasks in this project will be mainly operated by women in the affected area; the subject of technical popularization of the embryo transplantation and breeding is also women.
Chengbu Miao Autonomous County, one of the affected areas in this project, is a state-level poor county, whose GDP in 2001 was 659,540,000 yuan, agricultural gross output value was 377,840,000 yuan, accounting for 57.3% of the GDP, it is a typical farming county. The per capita farmer income in 2001 was 1,141.99 yuan, 50.3% lower than the provincial average in the same year.

The SA Team has made a field investigation at Aishang Village in Dingping Township, Chengbu County—one of the project construction sites.

The village has 6 villager teams, 214 families, 986 people, 70% being of the Miao nationality. The village has 503 mu paddy field, 420 mu dry land and 32000 mu forest. The village began to raise cows in cooperation with Yahua Company since Oct 2000, when 76 families participated and raised 86 cows in total. In 2001, Yahua further transferred in 156 cows. Up to now, 132 families are raising 397 cows at the village, 1-8 cows per family. The company have assigned technicians to give free guidance and training to villagers, but breeding and disease treatment are not free of charge. Now irregular training is given at the rough interval of half a year.

Before 2000, 189 villagers were working outside, but many have returned home to raise cow because cow raising is profitable. Now only 34 villagers are working outside. Their difficulty in cow raising is fund shortage mainly. The investment in Year 1 for cow raising is high to buy means of production and repay the loan to Yahua. There is no spare money, then the only choice is to sell calves, a female calf can be sold at 4000 yuan, but a male one can be sold at 100 yuan only. However, it costs about 10000 yuan to introduce calves from elsewhere after 1 year. Accordingly, villagers hope to obtain a loan.

Risks mentioned by farmers include: cow death; the reduction of milk purchase price by the company. In 2000, a cattle raising association was founded in the village, mainly responsible for technical guidance to cattle raisers, it is composed of experienced cattle raisers.

Attached:

Villager Interview Case 6:

Jian X, male, 52 years, graduate of junior high school. His family has 4 members, 10 mu land, 5 mu of which is growing pasture and the remaining growing paddy rice, sweet potato and corn. 2/3 of his time in a year is spent on cattle raising.

His household income includes the income of above 10,000 yuan from cattle raising and the annual pay of above 1000 yuan. His elder son works outside, brining above 3,000 yuan home a year. The total income is about 15,000 yuan. The household expenditures include high-grade commodities, tuition and entertainment. There is no division of labor between his wife and him.

I saw Nanshan people became rich by raising cattle in 2000. Yahua has set up a point for the “company + farmer” pattern. I think this pattern is good, because the company provides funds, farmers may borrow a loan from the credit cooperative and the company discounts the
interest. In the past, we would pay interest on a loan from Yahua. This pattern can achieve the effect of technological popularization. Since my participation in the project, I’ve attended 4 times of major training. In case of a technical problem, I would find the company’s technician, but his charge is high. The farmer association has considered recommending an experienced person to be trained by the company.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The mission supports this proposal to be included in the project. The mission supports the embryo transfer component in Wangcheng and the farmer outreach program in Bingjian. Given the financial strength of the company, project funds should be mainly targeted to the farmer outreach program. Those need to be better defined (e.g. The type of package farmers can get under the project). The Nanshan area should not receive WB financing.

2. Comments and Suggestions of POCAD

a. The company is a provincial joint-stock enterprise with solid strength and strong R&D capabilities.

b. This company’s dairy products have a great share in the market, it is one of the Top 10 enterprises in the nationwide dairy industry.

c. The company supports farmers’ development with the World Bank fund in project execution and deals with construction with its self-possessed fund.

d. The technique is advanced and good to solving the problems of less sources of milk and poor quality.

e. Participant farmers are mostly in Chengbu County, which is a minority area and also a state-level poor county, this project’s poverty relief benefit is significant.

f. The Chengbu county government highly supports the project and would grant a loan of several million dollars a year to farmers for cattle purchase.

3. Comments and Suggestions of Project Company

a. The Chengbu county government shall provide assistance, preferably conducting a quarantine inspection on local cows biannually.

b. The World Bank’s training fund shall be used to send leading farmers to a more professional place for training.

c. There has been sufficient preparatory work, including land acquisition, just waiting for the World Bank loan to get in position. For climatic considerations, cattle should be introduced in the second half of a year. Accordingly, orders must be placed in Aug to Sep every year. Since the World Bank requires that the World Bank fund may not be used before the project is approved, otherwise no accounts may be rendered, the company is in an embarrassment, because once this occasion is missed,
they have to wait one more year. The company thereby hopes the World Bank can complete the approval of this project as soon as possible.

4. Comments and Suggestions of Farmers

a. Farmers propose that the fixed repayment period of 3 years is too short and hope to extend it to 5 years, because if all the income on milk is used to repay the loan, they will lack the fund to feed calves, which is more cost-efficient than raising cows and milking.

b. There should be supervision on the milk test at the company’s milk purchase stations. Some farmers complain that the present test is hardly fair.

c. There should be more preferential policies than are currently available, particularly there should be a better cow death insurance program. Losses from eliminated cattle shall be jointly assumed by the company, the government and farmers.

d. The project fund shall be used to develop nearby grass hill and build roads to save raising costs.

5. Opinions and Suggestions of the SA Team

a. This project’s expected poverty relief benefit is good and there has been an earlier trial execution that got favorable feedback from the public. There is a strong voice to enlarge the scale of the project. From the comparative income of different kinds of labor in the affected area, cow raising is the most cost-efficient and a traditional local industry. The problem is the reduction of milk output and quality due to breed aging, thereby farmer’s income is reducing year by year. There is urgent need to conduct breed improvement, apply standard raising and milking techniques.

b. Since the location is in mountainous areas where farmers live far away each other, the cost for the company to conduct organized operation and technical training and service is relatively higher. There should be sufficient funds for this arrangement.

c. With the great support of the local government and cooperative and the execution of the “company + farmer + cooperative + government” pattern, the SA Team thinks this project can be effectively executed. Make sure the company’s milk quality inspection for farmers is accurate and transparent, so as to remove farmers’ worry about black box operation of the company.

d. Since the project is oriented mostly to minority farmers, full negotiation and patience should be used in settling any dispute of farmers with the company, cooperative and government, so as not to convert the dispute into a contradiction among nationalities.

e. Meanwhile, fully guarantee Han farmers’ interests in the project execution, so that they can share equal opportunities of participation in the project.
VII. Hunan Zhenghong Live Pig Project

(I)  Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Hunan Zhenghong Scientific &amp; technological Development Co., Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Beijing Tianfulai Biological Technology Development Co., Ltd and National Feedstuff Project Technology Research Center</td>
</tr>
<tr>
<td>Construction site</td>
<td>Miluo City and Quyuan District of Yueyang City</td>
</tr>
<tr>
<td>Main construction contents</td>
<td>1. Construction contents of breeding pig hogpen: rebuild and extend pigpens, add equipment and match public facilities; 2. Construction contents of additive factory: civil works and equipment in main workshops, boiler house and power transformation and distribution house, matching of public facilities and disposal of sewage; 3. Construction of service system: civil works and equipment of training &amp; test center and zhenghong Technology Service Station; 4. Breeding subzone of Zhenghong Village: rebuilding and extending of pigpens, matching of equipment and civil works and equipment of 2,000 methane tanks; 5. Construction contents of raw materials base: irrigation and drainage engineering and equipment and construction of roads for mechanized farming</td>
</tr>
<tr>
<td>Major techniques to be demonstrated and popularized</td>
<td>1. The production technology of green nuisance free feedstuff additive; 2. Protection and control technology of breeding ecological environment; 3. Live pig regular breeding technology; 4. Breeding technology of high quality breeding pig</td>
</tr>
<tr>
<td>Economical benefits</td>
<td>Produce 15 thousand fine breed sows, 200 thousand marketable hogs. The annual sales revenue will be 45,808 million Yuan. The after tax profits will be 12,077.3 million Yuan, the annual net profits 10,055 million Yuan and the tax to be handed in will be 2,055 million Yuan.</td>
</tr>
<tr>
<td>Social Benefits</td>
<td>The annual increased income of pig breeding farm households in Zhenghong Village will be 15.4 million yuan and that of each farmer household will be 7.7 thousand Yuan; the annual increased income per farmer household of raw materials base will be 16 thousand Yuan; every farm household in the Pig Breeding Subzone of Zhenghong Village will have a methane tank, which will solve the problem of combustion of energy; Both the women of 2,000 farm households taking part in pig breeding and 1,000 farm households planting raw materials increase their income.</td>
</tr>
</tbody>
</table>

(II)  Affected Area, Affected Farmers and Project

Quyuan District has above 120 villages, each having affected farmers. 

The SA Team has made a field investigation on Yuhu Village under Yingtian Town under Miluo County, a project execution location.

The village has 126 families, 460 people, of which pig raisers account for about 94%, only a few families have not participated in the “company + farmer” pattern. The per capita income of villagers is about 2000yuan, planting and breeding are key sources of income, the income on pig raising accounts for above 60% of the total income. Usually a family can produce 50 pigs a year. The reason for not participating in the mode is poor breeding capability.

This village began to raise pigs in cooperation with Zhenghong since 1998 and have benefited from it. Villagers think it very beneficial to participate in pig raising under the “company + farmer” pattern, mainly embodied in the 5 preferential policies offered by the company: 1) the company extends credit to farmers, free of interest for Year 1 and collects reasonable interest in Year 2 and Year 3; 2) farmers may pay half the money when buying boars, the remaining
half will be paid when sows have born piglets and generated a profit; if no piglet is born, the company will send another sow to farmers; 3) the company provides free technical support to farmers; 4) there is an epidemic prevention controller at every village, farmers have only to pay 3yuan vaccine cost for each pig to be entitled to the free door-to-door service; and 5) the companies guarantees the purchase of farmers’ pigs at the protective price. Farmers think that pig raising is very profitable and they don’t have to work outside anymore.

Villagers think risks in participating in the project include: pestilence; unreasonable purchase of the company; and payment in arrears by the company once it operates poorly. Nevertheless, they think these risks are minor, let alone some risks (such as pestilence) exist whether or not they participate in the project.

Attached:

Villager Interview Case 7:
Tian Dingqing, male, 45 years, graduate of junior high school. He raised 2 sows in 1998, now the whole family of 8 members is working on pig raising, handing their field to the village. The current yearly net income is 50,000-60,000yuan.

He thinks the “company + farmer” has such benefits: no need of cost advancement; adequate technical service, guaranteed purchase. Tian thinks there is almost no risk in participating in the project. The current difficulty in development is the shortage of fund for enlargement of the scale. According to his idea, the annual output should be 2,000 pigs, but now he is unable to borrow a loan and hopes the project can solve this problem for him.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The company is well established with a national coverage through its branch offices. It is well positioned to introduce the new product in the market place. Green labelling certification has already been obtained and the herbal mixture has been patented and tested in feeding trials. However, the mission finds it difficult to justify using government-subsidised funds to create assets for a financially already very powerful and large company. The mission supports the two proposed ideas of farmer outreach and suggest keeping those components under the project. The mission requested further information about the type of plants and raw material to be produced through farmer contracts and the preparation of unit cost models. Such information would be required for Bank support. The company indicated that this would be difficult as it could create a risk that potential competitors would copy this technology. The mission understands this position and recommends given the financial strength of the company to finance the introduction of this technology with the company’s own resources. In this case the project support would be limited to one of the outreach elements only, - the breeding of marketable pigs. The mission suggests to use a unit cost model and to define a typical household operation e.g. 6 breeding stock with the necessary facilities as a unit. The farm household would receive support from the company to establish such an operation and
the Bank would reimburse part of these costs. The mission requested revising the current proposal in such a way and to add criteria of farmer selection with a focus on poor farmers.

2. Comments and Suggestions of POCAD

Hunan project officials think the following points of this project should be noted:

a. The company is a joint-stock company with solid strength, high staff competency and high technological level.

b. Live pig breeding is very profitable, increasing the household income by 7700 yuan on average.

c. The company builds methane tanks for farmers, producing great environmental protection benefits.

d. Women are main participants.

e. The company has been closely connected with farmers, there is mutual trust and rich cooperation experiences.

Based on a comprehensive consideration of many factors PADO officials suggests that the planting green nuisance-free feed should be financially supported without reducing the project fund, because although the company is strong, it already does not have enough funds for this aspect.

3. Comments and Suggestions of Project Company

a. Worrying that some dishonest farmers fail to act strictly on the feeding regulations in pursuit of short-term interests, the company hopes the government and grassroots organizations, especially the 2 village-level committees, can assist the association in conducting long-term and effective supervision.

b. The project’s support fund is presently limited and is far from enough for the green pig source target of “processing production line for slaughtering 1 million live pigs a year” planned by the company. If the World Bank cannot offer additional investment, it expects to obtain the support of the government’s agricultural development fund and poverty relief fund.

4. Comments and Suggestions of Farmers

a. The project fund shall support farmers to improve pig breeds and enlarge the scale of breeding.

b. The project executive unit shall provide pig feed with guaranteed quality, because the quality of the feed presently produced by the company needs improvement.

5. Opinions and Suggestions of the SA Team

a. The company the experience of long-term cooperation with farmers. Through such cooperation, it has established mutual trust with many farmers in the affected area. Accordingly, the project will be pursued quickly and effectively.
b. The planting of green nuisance-free feed and the additive processing are an important aspect of the project. The World Bank shall consider funding the green nuisance-free feed additive processing plant it designs. In return, the company may provide its additive to farmers at fair prices.

c. Since rural women undertake a greater part of pig raising, the income increase from pig raising in this project can increase women’s ability to obtain financial income and their family status. When the scale of pig raising is enlarged, rural surplus labor or some surplus man labor, the elderly and children can also participate in the project to different extents, providing employment opportunities and channels of enrichment to affected farmers, the SA Team thereby thinks this project has good economic and social benefits.

d. The magnitude of market risk of this project depends on the company’s development capability of the market and diversified processing of live pig products. According to the company’s past operation and market analysis, the SA Team thinks the company is able to minimize farmers’ risks, but still thinks it necessary for the company to publicize and popularize the breeding insurance among pig raisers.

VIII. Changde Triploid Chinese White Poplar

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Hunan Dongting Baiyanglin Paper Co., Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>The Chinese White Polar Institute of Beijing Forestry University</td>
</tr>
<tr>
<td>Construction site</td>
<td>Lixian County of Changde City, Administration Area of West Dongting</td>
</tr>
</tbody>
</table>

Main construction contents

1. Establish reproduction base of seedlings with an area of 672 hectares, of which there are an ear-gathering garden of 12 hectares, an stock garden of 60 hectares, and a reproduction garden of 600 hectares; 2. Establish raw material wood of triploid Chinese poplar occupying land of 2800 hectares; 3. Civil works of 2200 m²; 4. Purchase 4275 sets/pieces of such equipment as for reproduction of seedlings, transportation, farming, official business handling, etc; 5. Train personnel for 630 men times.

Major techniques to be demonstrated and popularized


Economical benefits

In the calculation period, the gross output value is 463.875 million yuan, with the annual average value of 33.1339 million yuan and the annual average profit of 9.0005 million yuan. The investment recovery period is 4.83 years, and the financial internal rate of return is 35.13%.

Social Benefits

1. The farmers of the project area share profits by subscribing shares with land (according to 70% and 30%), who will share profits of 88.2 million yuan in the calculation period. The annual average net income per peasant will increase by 5.2%. And the 950 persons can be arranged in employment for years. 2. The area where this project is popularized reaches 24.54 million mu, to promote the structural regulation of agricultural industry, benefiting the improvement of the quality of farmers and workers and level of production and business, and increasing the market idea of farmers. 3. By planting Chinese white poplars, adjust the tree kind structure in the project area, increase the forestry coverage percentage, and improve the...
(II) Affected Area, Affected Farmers and Project

The triploid white poplar sapling cultivation base planned in the project is located at the West Dongting Administration Zone in Changde City, and the raw material forest base is at Qilihu Township, Jiuwan Township and Wangjiachang Town under Li County.

The SA Team has made a field investigation on Changle Village in Wangjiachang Town in Li County, a project execution location.

The village has 12 villager teams, 412 families and 1600 people, per capita annual income of about 1600yuan. The per capita paddy field and dry land is 1mu each. The village deals with farm work mainly, many young people are working outside.

In last Nov, the company came to the village to negotiate about the white poplar planting with villagers and gave over 7000 saplings to the village, all farmers participated in planting, more or less. Last year, a medicinal materials company and a vegetable company wanted to set up a base at the village. By comparison, villagers thought the conditions provided by this company were the best and selected this company as the partner. The preferential conditions offered by this company then include: 1) build water conservancy facilities and renovate highway for the village; 2) support some poor families of the village; and 3) share profits at the ratio of 8:2, 8 shares for villagers and 2 shares for the company, villagers have been benefited greatly.

Villagers think that according to the agreed conditions and the company’s commitment, there is almost no risk in participating in the project, because seedlings are offered by the company and there is a protective purchase price.

Attached:

Villager Interview Case 8:

Liu X, female, 40 years, graduate of junior high school. Her husband is 40 years, graduate of junior high school. Her daughter is 16 years, doing farm work at home after graduation from junior high school. Liu’s family is one of those planting white poplar the earliest.

Her family has 6mu land, 5mu of which grows white poplar, the remaining 1mu grows hybrid paddy. Her family has just set up a small tilery with an investment of above 20,000yuan one month ago. The tilery is expected to bring income of 3,000-4,000 a year. The couple worked in Shandong last year, earning about 8000yuan.

Liu has worked outside and opened her eyeshot, and is thereby more receptive to new matters, like white poplar. She thinks white poplar planting is a good approach to richness. Therefore, she is very interested in the project and hopes that the project can be successfully executed to help her family relieve poverty as soon as possible.
Since the company has offered very preferential conditions, Liu thinks there is almost no risk to farmers participating in the project.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The mission supports the proposal to be included under the project. The mission discussed with the company procurement and disbursement options using World Bank funds for the farm outreach component. It is suggested that the 600ha seedling propagation nurseries and the 2,800ha forest production area would be done under contractual arrangements with farmers and a unit cost approach could be used to disburse funds. The mission raised concerns about potential environmental problems caused by the use of pesticides in the poplar production and the risk involved in monoculture of a single tree species. The proposal would require special attention in the Environmental impact assessment.

2. Comments and Suggestions of POCAD

a. The project complies with the state industrial policy, the provincial project office and the local government support this project very much.

b. The project’s execution can solve 3 major problems: demand for papermaking timber; utilization of land returned for farming to forestry; ecological protection.

c. The technical level is high, World Bank experts are also very interested. The chief expert is Academician Zhu Zhiti, holding 6% shares of the company and uniting with the company into an interest group.

d. The market for forestry and paper integration is good.

e. The form of equity participation by land is also proposed, which will benefit farmers greatly.

PADO proposes 2 improvements:

a. Pay attention to the farmer association, which is inadequately mentioned in the project proposal.

b. Determine the protective purchase price.

3. Comments and Suggestions of Project Company

a. About account rendering, the company proposes whether it’s possible to let farmers render accounts by signing and stamping.

b. About exchange rate risk (since this risk is already assumed by the State Ministry of Finance, this is already out of question)

c. Speed up the project approval process.
4. Comments and Suggestions of Farmers
   a. Enlarge the project’s scale and provide more white poplar saplings to local farmers.
   b. Invest in the watery conservancy infrastructure.

5. Opinions and Suggestions of the SA Team
   a. This project can be executed on intertidal zones, forests and fields, so that it will help increase the land utilization rate and ecological protection. Its contents fit the need of returning land for farming to forestry, it can win wide support from the government and farmers.
   b. This technique has been effectively executed in North China and gained experiences. Accordingly, the SA Team agrees with the opinion of Hunan project officials and thinks this project get expected results, farmers will also benefit from it.
   c. What the SA Team asks for attention is the processing and marketing of white poplar. Since there are ongoing similar projects elsewhere in China, in the long run, there’ll be industrial competition among such projects to discount the expected benefits. In addition, the enlargement of the scale of planting might affect the supplier market to reduce the selling price, affected farmers will have to assume such market risk.
   d. However, since the technique provider of such projects are Academician Zhu Zhiti, if the project can be operated under the unified planning of him and several units, the SA Team thinks such risk will be reduced.

IX. Oil Tea Project of Chaling County

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Haoqia Green Oils Development Co., Ltd. of Zhuzhou City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Central South Forestry Institute, Hunan Normal University</td>
</tr>
<tr>
<td>Construction site</td>
<td>Chaling County of Zhuzhou City</td>
</tr>
<tr>
<td>Main construction contents</td>
<td>1. Build up 20 thousand mu high-quality and high-yield oil tea base; 2. Construct one processing line with an annual output of 500-ton high-purify saponin powder of oil tea and complete power, water and gas supply, treatment of “three wastes” and warehouse for raw and auxiliary materials and finished products; 3. Establish and perfect oil tea technology popularization system: newly build a training building with an area of 800m², a 200m² laboratory, a 100 mu nursery and purchase 60 pieces/sets of laboratory apparatus and audio-visual education apparatus.</td>
</tr>
<tr>
<td>Major techniques to be demonstrated and popularized</td>
<td>1. Breeding technique of high-quality clone variety of oil tea; 2. High-yield and high-quality growth technique of oil tea; 3. Isolation and purification technique of saponin.</td>
</tr>
<tr>
<td>Economical benefits</td>
<td>Annual sales revenue of 61.78 million Yuan, handed tax of 9.8 million Yuan, net profits of 13.60 million Yuan; newly increased oil plants of 1 million kg, high-purity oil tea saponin powder of 500 tons.</td>
</tr>
<tr>
<td>Social Benefits</td>
<td>Realizing the employment of 10 thousand persons of the countryside, increasing farmers’ revenue by 22.4 million Yuan; pushing the adjustment of the agricultural structure, popularizing agricultural scientific and technologic knowledge, improving scientific and cultural quality of the farmers; preventing</td>
</tr>
</tbody>
</table>
(II) Affected Area, Affected Farmers and Project

This project’s construction area of Chaling County is situated southeast of Hunan, bordering on Guangdong, Changsha, Zhuzhou and Xiangtan, enjoying convenient traffic composed of the San-Nan Highway, National Highway 106 and Li-Cha Railway. Chaling features warm, humid climate, plenty of rainfall, suitable for the growth of oil tea. The distribution of forest parent rock is regular. The Quaternary red clay derived from the development of weathering residue of the parent rock, suitable for the construction of the high-yield oil tea base.

The construction sites of the high-yield oil tea demonstration base are 20 townships/towns, including Yantang, Pingshui, Jieshou, Yaokeng, Zhitang, Hukou, Zaoshi, Xiaotian, Changling, Huaxi, Huju, Yunyang, etc. under Chaling County. This project will increase 20,000mu oil tea base for the county, drive 100,000 tea planters in Chaling and farmers within hilly areas of 150km radius centering on Chaling County to plant oil tea, apply advanced oil tea production technique and gradually turn 9 million mu barren tea hills in Hunan into a high-yield oil tea planting base to realize the large-scale industrialized operation of oil tea.

The SA Team made a field investigation on Wufeng Village, Pingshui Town in Chaling.

The village has 614 families, 2530 people, per capita paddy field of 0.51mu, above 6000mu hilly land, of which above 70% is growing tea tree. Villagers’ main sources of income include farming, pig raising, working outside and tea planting. Villagers’ standard of living is medium to low in the county, with annual per capita income of less than 1000yuan.

Every family in the village plants tea tree, mostly the old variety, the per mu oil yield is 7-8 catty, the price is generally 10yuan/catty. However, the per mu oil yield of the new variety is 70-80 catty. The village has a history of tea tree planting, but the trees now were planted in 1940s through 1970s. If the new variety is planted, there will be income after 5 years and the benefit will last 40-50 years. Villagers expect a good variety.

The village has reached an oral agreement with the company, where the company guarantees the purchase of oil and tea seed with a bottom oil price of 10yuan/catty, which may change with market conditions. There is not an association yet, but if tea trees are planted on a large scale, an association will be necessary, whose benefits include: protecting farmers’ interests, exchange of experiences, settlement of any dispute.

Villagers think the project risk is small under the supervision of the Agricultural Development Office. The government’s roles will mainly be mobilization, supervision and publicity.

Villagers hope the project fund can be used to support villagers’ road construction and variety improvement.

Attached:
Villager Interview Case 9:

Li XX, male, above 50 years old, graduate of junior high school. His family has 4 members, including his wife and 2 sons. His family has 2.7mu paddy field, and contracts 340mu tea tree at the village since 1995 at an annual rent of 3000yuan. The income on the tea garden is about 20,000yuan, the net income is above 7000yuan. In addition, the family deals with fish culture, with annual income of about 3000yuan.

Li grafted over 20mu tea tree of the new variety through the County Forestry Bureau in 1997, the current output is 50 catty tea oil/mu. Li began to cooperate with the company since 2002, selling tea cake to the company at 450yuan/t, tea oil is sold by himself at 10yuan/catty. Oil is squeezed by himself, if not squeezing oil, tea seed is sold at 1yuan/catty.

He introduces that, after seeing the contract drafted by the company for this project, he feels fairly satisfied, thinking that it can protect farmers’ interests. He thinks there is almost no risk for farmers, because if the company does not pay them, they may elect not to sell products to the company. Li thinks the “company + farmer” pattern is good enough to achieve the effect of agro-tech popularization.

Li’s seasonal activity chart:
Jan-Mar: graft tea tree, hoe up weeds, fertilize, feed fish;
Mar-Sep: farming, feed fish;
Sep-Oct: picking tea seed;
Oct-Dec: squeeze oil, sell teacakes.

Li’s daily activity chart:
5:00am: get up, raise fish;
7:30am: have breakfast, then do farm work;
11:00am: rest
12:00am: have lunch, rest;
16:00-19:00pm: go home
19:00pm: have supper, then watch TV to 23:00pm, rest.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The proposal is recommended for further consideration under the proposed project. It offers:

- Innovative technology that will substantially enhance an indigenous natural resource;
• Extensive farmer involvement and the opportunity to increase incomes through the improving output per unit area of land in what is a traditionally poor county.

• Supporting technology services that would assist farmers improves their existing resources and allow for a substantial increase in farmer participation.

• Promotion of healthy and ‘green’ products

To assist the company strengthen its proposal it is suggested that, shareholding in the company or other organizational mechanisms should be explored to attract farmers into the camillia resource improvement program. This is thought to be necessary as production increases will be initially slow and a critical mass ‘buy in’ by farmers is important if the investments are to have a significant impact.

The provision of establishment costs for farmers could be spread over a term period through a loan consistent with the expected income from the proved camillia bushes. These funds could then be recycled on a continuing basis to bring a greater number of farmers into the scheme.

2. Comments and Suggestions of POCAD

Advantages:

a. Extensive planted area, long history, good industrial base, suitable local climate and economic conditions.

b. The “Haoqia” tea oil brand created by the company has a high awareness, there has been no risk for tea saponin in the past 7 years.

c. Hunan is a major producing province of oil tea and Zhuzhou is a producing area, the project plays a driving and demonstration role on the whole province. The potential of output increase of oil tea is great.

d. Farmers are zealous for participating in the project and may increase their income by above 20 million yuan.

e. The local government has listed oil tea development as a priority in the regional industrial investigation.

Provincial project officials have propose the following issues:

a. Determine the protective purchase price.

b. Enhance the connection with farmers, which is a focus in the future monitoring.

c. How to integrate farmers is presently an urgent issue; the government’s publicity and mobilization is questionable; oil tea is not the key source of income but something incidental; farmers in mountainous areas live far apart and have a low perception of the project, they can hardly be linked to the company.

3. Comments and Suggestions of Project Company

a. The company thinks the project’s execution will face the risk of weak processing link, so it hopes the World Bank can support the construction of its processing plant.
b. The government shall ensure the counterpart fund.

4. Comments and Suggestions of Farmers
   a. Help is needed in regard of startup fund.
   b. Provide long-term, repeated technical training and guidance, so that farmers can actually master the technique popularized.
   c. The government shall strengthen its publicity to involve more farmers in the project to improve the oil tea variety and obtain income.

5. Opinions and Suggestions of the SA Team
   a. The company’s tea oil brand is established and has high awareness, which is very advantageous to the project’s execution. The market for the technique to be applied and popularized in this project is good. The active carbon to be produced uses waste tea shell, tea dregs as raw materials, the tea saponin uses waste tea cakes as the raw material, so that waste materials of this company’s tea oil processing plant can be recycled to increase the oil tea utilization ratio.
   b. The SA Team finds that the initial participation of the company is insufficient, which is still passive in project planning and design.
   c. The project’s mobilization is also insufficient. During village investigation, the SA Team found few villagers had an accurate understanding of the project. Accordingly, it requires this company and the agricultural development office of Chaling County to well perform the initial publicity for the project and fully respect affected farmers’ right to learn the truth in the project execution. The World Bank and Hunan project managerial body shall also conduct effective monitoring and supervision after the commencement of the project.
   d. This is a long history of oil tea planting in the affected area, the current planted area of oil tea is very extensive. However, the serious aging of the variety and the reduced zeal of farmers due to continuous price fall have continuously reduced the income on oil tea and the contribution thereof to the household income of affected farmers is very low. For this reason, farmers have great expectations for variety improvement and are very enthusiastic for the project. The SA Team thinks as long as the company and local management dept execute the plan in the feasibility study report strictly, farmers and the company will obtain considerable economic benefits.

X. Citrus Project of Yuanjiang City

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Taisheng Natural Fruit Juice Co., Ltd. of Yiyang City, Hunan Province.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Hunan Provincial Agricultural University</td>
</tr>
<tr>
<td>Construction site</td>
<td>Yuanjiang City</td>
</tr>
<tr>
<td>Main construction contents</td>
<td>I. Company</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>1. Newly building agricultural and sideline product processing shop, etc., with a total building area of 2000 m²;</td>
</tr>
<tr>
<td></td>
<td>2. 39 pieces (or: sets) of complete equipment;</td>
</tr>
<tr>
<td></td>
<td>3. Introduction of proprietary technology.</td>
</tr>
<tr>
<td></td>
<td>II. Farmer Household</td>
</tr>
<tr>
<td></td>
<td>1. Newly building detoxifying center of seedling group-cultivating, etc., with a total building area of 1000 m²;</td>
</tr>
<tr>
<td></td>
<td>2. Building breeding base of citrus seedling, with an area of 300 mu, including 100 mu of stock tree, 50 mu of spike sampling garden, 120 mu of nursery garden, and 30 mu of establishment nursery garden;</td>
</tr>
<tr>
<td></td>
<td>3. High-quality and –output breed replanting base, with an area of 20000 mu.</td>
</tr>
</tbody>
</table>

| Major techniques to be demonstrated and popularized | 1. The group-cultivating & detoxifying technology of citrus seedling; |
|                                                     | 2. Cultivating technology of high-quality and –output citrus; |
|                                                     | 3. The advanced condensed juice processing technology of pollution-free citrus; |
|                                                     | 4. New extracting and processing technology for peel and marc of citrus. |

| Economical benefits | 1. Newly increasing income 120 million yuan/year; |
|                    | 2. Yearly making profits and taxes of 13.70 million yuan. |

| Social Benefits | 1. After planting 20000 mu of high quality and –output citrus in the demonstration & popularization project, the farmers’ income shall yearly increase 26.80 million yuan, and the net income of every citrus farmer with 1 hectare of planting will be increased by over 3055 yuan. |
|                | 2. Providing 7000 employment opportunities for the farmers, including those for 3600 women. |
|                | 3. The processing base directly provides the employment opportunity for 183 persons, including 110 women. |

(II) Affected Area, Affected Farmers and Project

The project location of Yuanjiang City mainly produces such farm products as grain and citrus. Its gross grain output in 2000 was 390,300t, citrus output 54,600t, the per capita occupation is 523kg and 73kg respectively, higher than the provincial average by 33% and 37.8%. It is a typical major farming county (city), with a citrus planted area of 44,000mu this year.

Yuanjiang is a major citrus producing city in Hunan. It’s estimated that the gross citrus output will be above 80,000t and 1/3 farmers of the county (about 70,000 families) will deal with the citrus production by 2005. Accordingly, this project is strategically significant in promoting the development of agriculture and rural economy in Yuanjiang. According to statistics, most young adult agricultural laborers of Yuanjiang are working in Guangdong, Shanghai, Zhejiang. Among the 83,000 citrus production laborers in the affected area, women account for about 1/2. Accordingly, the industrialized citrus production executed in this project will mainly be operated by women in the affected area, the subject of citrus seedling cultivation and quality high-yield cultivation technique popularization will also mainly be women.

The SA Team has made a field investigation on Hongjiazui Village under Xinwan Town, Yuanjiang City.

The village has over 400 families, 1560 people, all planting citrus, 80-90% income of farmers comes from citrus sales. There is the tradition of citrus planting here since 1960s.
The per capita paddy field is very limited here, just slightly more than 0.3mu, the per capita dry land area is 1.7-1.8mu, mainly planting citrus, accounting for 80%, a small part of the dry land is growing ramie and melon.

Villagers think, the project has both positive and negative influences. Its benefits include: 1) variety improvement; 2) provision of market outlet; 3) stable, guaranteed price; 4) financial support to the village’s construction of irrigation facilities. The problem is, if the early, middle season and late citrus varieties are changed completely, there will be an impact to the citrus output in 3 future years. There will be short-term difficulty due to the temporary reduction of household income.

Villagers worry about natural disasters, disease and insect damage, failure of the company to act strictly on the contract.

Attached:

Villager Interview Case 10:

Zhang XX, female, 51 years, graduate of primary school.

My family has 5 members, including myself, my husband, 2 daughters and a son. My family has 11mu land, of which 8mu grows citrus, 1.5mu grows melon, 1.5mu grows ramie. Citrus is generally sold to citrus peddlers at 0.1-0.2yuan/catty. In last year, we earned 2000yuan on citrus (of which the fertilizer cost was above 1000yuan), 1200yuan on melon and 800yuan on ramie. Her husband is an accountant with annual income of 3000yuan.

The household income is not enough for spending, her elder daughter’s spends at university is 10000yuan a year, her little daughter’s spends at senior high school is 7,000yuan a year, her son has also entered senior high school. The family has borrowed 20000yuan from relatives. Her husband suffers from hip gout and colonitis, costing medical costs of above 1000yuan a year.

I have attended the company’s training courses twice on citrus planting, including fertilization and pesticide application. The purpose is to increase my income. This pattern is good, because it can help farmer become rich and give them more knowledge.

We think there is no risk in participating in the project.

I’m not quite clear about the project and have no suggestion. The government supports this project, they have been here for a visit and thought the project was well executed, then I’m assured. I don’t know whether the project will care for women, but I feel myself very hard.

Seasonal activity chart:

Feb: Plow citrus field
Apr-May: Disinsection
Jun: Weeding
July: No farm work, housework

Aug: Harvest early citrus

Sep: Harvest late citrus, preservation

Oct: Buy and apply fertilizer

Nov-Jan: No farm work, housework

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

Proposal is potentially suitable to be included under the project. However, the Review of the proposal elicited the following mission comments and recommendations:

- Future and sustainability of juice production and competitiveness of Topsun in this field needs to be clearly demonstrated by a medium to long-term market analysis. This is important because it will impact the future and livelihood of farmers who will adopt the technology proposed by Topsun.

- How will the assets funded by the Project be capitalized (both the by-product processing line and the fresh tangerine grading and packaging line)? and whom will they benefit?

- Since some of the project funds of the SOCAD and provincial/county counterpart funds may be provided in the form of a grant, companies should explore the possibility of giving participating farmers/villagers equity share in the company in an amount commensurate with the grant they receive.

- The contractual relationship between Topsun and farmers need to be detailed further and the risks to farmers minimized.

2. Comments and Suggestions of POCAD

a. The citrus output in Yuanjiang ranks first in the province, there is a good industrial foundation there. The project will effectively work out the difficulty in selling citrus. In the past few years, the citrus price was very low. If the market problem cannot be resolved, it will be hard to protect citrus planters’ interests.

b. The company has already introduced a top-class production line from Germany to the satisfaction of German experts. This line’s processing capacity is high. To ensure its full utilization, this project shall deal with variety improvement to grow premature varieties.

c. The managerial staff has high competence and market development capabilities, there is a perfect market.

Things to be perfected:
a. Which proceeds will farmers obtain from the project are not clearly expressed in the project cost list;

b. Fix the protective purchase price.

3. Comments and Suggestions of Project Company

The greatest worry of the company is pesticide residue, it then suggests the associations of citrus farmers at the affected villages make good supervision and thinks the 2 village-level committees shall also play a binding role in this regard.

4. Comments and Suggestions of Farmers

a. The technical training shall be combined with field guidance for better effect.

b. The variety improvement shall be gradually conducted other than changing all citrus trees at a time, because these trees are what citrus farmers live on. The fruit bearing period of citrus tree is 3 years. Change at a time means farmers will be faced with a sharp fall in household income in these 3 years.

c. Match the 3 kinds of citrus trees—early, middle and late—rationally in the course of variety improvement.

5. Opinions and Suggestions of the SA Team

a. The affected area is a major citrus producing area, the difficulty in sales has always been puzzling citrus farmers. This project is just designed for this problem. The top class production line of the company introduced from Germany can deal with local citrus products, increasing the local citrus price. In addition, the variety improvement and scientific planting under the project will help stagger the citrus launch season in market, improve the citrus quality and increase citrus farmers’ income.

b. Affected farmers have invested great expectations in the project, which is good to the successful execution of the project.

c. The company already has solid technical forces, a full range of market development personnel and stable market outlets. With the project’s execution, the focus will be how to create a famous brand and increase the product awareness. There are many brands of concentrated juice in the domestic market. The company should endeavor to create a brand and occupy market shares.

XI. Citrus Project of Yongzhou City in Hunan Province

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Hunan Xike Food Co., Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Hunan Agricultural Scientific Academy</td>
</tr>
<tr>
<td>Construction site</td>
<td>Lengshuitan District of Yongzhou City and Qiyang County</td>
</tr>
<tr>
<td>Main construction</td>
<td>1. Build 10000m² stock room and 3800m² workshop; 2. Introduce support</td>
</tr>
</tbody>
</table>
equipment for citrus processing; 3. Heat-supply appliance; 4. Training appliance; 5. Base construction: 52.5-kilometer road, 500 marsh gas tanks, 150 water-lifting devices, 123-kilometer water pipe, 300 pools, 150 water resources, 40000 nursery stock, 50 chemical sprayers, 3592 ton organic compound fertilizer, 75.8 ton pesticide and 1000 person/time technical trainings; 6. Equipment installation.

Major techniques to be demonstrated and popularized

1. Nuisance free cultivation techniques for citrus;
2. “Mite is controlled by mite” Biological prevention and cure technology
3. “Pig-swamp-fruit” comprehensive development and utilization technology.

Economical benefits

The annual new-added sale revenue is 47 million yuan, annual new-added profits is 7.44 million yuan, annual new-added tax revenue is 4.95 million yuan, annual new-added foreign exchange by exportation is US$ 5.6 million yuan and the static investment recovery period is 5.74 years (including construction period).

Social Benefits

After the buildup of the project, the total revenue of the farmers of the base will increase 11.25 million yuan and the peasant around can increase 22.5 million yuan every year; it can arrange nearly 10,000 persons employed seasonally, release the employment pressure and maintain the stability of society; the demonstration and popularization will greatly promote the level of scientific fruit plantation of the large fruit farmers, promote the scientific management qualification of the farmers and reduce soil erosion in favor of the improvement of the ecological environment.

(II) Affected Area, Affected Farmers and Project

The project’s construction site is Phoenix Garden Economic Development Zone in Yongzhou, Hunan. The project base is located at Panshi, Qiliqiao, Xiamadu, Wuxi, Guanyintan, Maozhu and Baishui towns under Qiyang County, Yongzhou City. Yongzhou is located south of Hunan, at NL26°14’, EL111°37’. Yongzhou is a typical farming city, with a total population of 5.6647 million people, of which the agricultural population is 4,500,000 people, there are 2,670,000 rural laborers, tilled area of 282kha. The GDP in 2001 was 24.93 billion yuan, total financial revenue 1.13 billion yuan and annual per capita farmer net income 1967yuan.

The SA Team made a field investigation on Shixiazhou Village in Maanling Township, Qiyang County, the project base village.

The village has 286 families, 997 people, per capita land of 0.2mu, there is little paddy field in the village (0.18-0.2mu only), above 300mu dry land and above 500mu hilly land. The key cash crop of the village is citrus, the village has the history of citrus planting. The CEO of Xike Company is very kind, who is creditable and offers a minimum protective price of 0.3 yuan/catty. The cooperation began in 2000. At the beginning, individuals entered into contract with the company, now the village collective enters into contract with the company with the village head as the legal person.

Villagers think the “company + farmer” pattern is good, farmers have only to grow citrus. 85% of the citrus output is sold to Xike, the remaining 15% is not sold because it fails to meet the company’s specifications (size of 45mm-75mm). Disqualified citrus may be sold to others, actually large citrus is also sold to others at a good price. Accordingly, there is almost no risk for farmers in this pattern. All farmers at home have participated in this pattern.

The company holds training courses and assigns technicians for field guidance on damage by disease and insect and fruit tree protection. The guidance is very effective and practical. With the guidance, the citrus output is boosted to 3000 catty/mu.
Attached:

Villager Interview Case 11:

Tang X, female, 42 years, graduate of junior high school.

My family has 4 members, including I, my husband, son and daughter. My family has 0.6mu land and 10mu contracted land, all used to grow citrus, the grain is purchased.

The purchase price of Xike is stable under the policy of guaranteed price. The company acts strictly on the contract and guarantees purchase of citrus regardless of the output. Farmers are satisfied with this. I’ve now contracted a citrus garden and am very toilsome, I have to retain helpers in busy seasons. I think it better to grow citrus than to grow paddy. I can now harvest about 30,000catty a year, sold at 0.6yuan/year. I estimate that there will be above 30000 catty of citrus this year. If the fertilizer and pesticide cost of above 2000yuan and contracting fee of 1100yuan are deducted, the estimate profit will be 3000-4000yuan. My husband works nearby and can earn 2000yuan a year.

I think that farmers can benefit more from this pattern. There is almost no risk for them. The 2 village-level committees play a coordinating role in the pattern. For example, the committees have contracted with Xike Company, formerly dissatisfied villagers have begun to cooperate.

We hope: 1) Improve the village’ power facilities through the project, the existing transformer is small; 2) improve the water conservancy facilities. Citrus trees are planted on the hill, our present irrigation relies on manual water carrying; 3) improve the roads.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The mission supports this proposal to be included in the project. However, financing needs to be limited to the citrus production and farmer outreach components. The company, which is majority foreign owned, can not receive direct financial support from the project.

2. Comments and Suggestions of POCAD

a. The company grows rapidly and has strong management capability and a high level of management, as well as the foundation and scale for the project. It is a national leading enterprise in gardening. Accordingly, the company has the strength to drive farmers and can greatly increase farmers’ income, settle the seasonal employment for 10,000 people (mainly women).

b. The local government quite supports the project and has allocated land. This support is an important guarantee to the project’s successful execution.

c. Close relations have been established with farmers, 80% funds are used on farmers in compliance with the World Bank’s standard.
d. The company’s products have good quality and brand, and a stable market in USA. The market risk after the startup of the project is relatively small.

3. Comments and Suggestions of Project Company

a. Although the company is controlled by foreign capital, but this project’s target group is local farmers, which meets the World Bank’s other requirements, such as driving poor families, providing women with employment opportunities. The World Bank’s support is expected.

b. Since the company lack experiences in association organization and management, it hopes to get guidance from the World Bank and experts.

4. Comments and Suggestions of Farmers

a. Increase the local investment to support variety improvement and scale enlargement of citrus farmers.

b. A considerable part of the fund shall be used on the local infrastructure construction, such as roads, water conservancy.

c. Provide necessary small devices (fruit selector, etc) to villagers.

5. Opinions and Suggestions of the SA Team

a. Yongzhou’s citrus output is high, citrus farmers in the affected area have long history and experiences in planting. With the impact of price fall in recent years, they mostly expect a company can deal with production and processing in cooperation with them to guarantee this stable source of household income.

b. According to the field investigation and interview on farmers, the initial cooperation between this company and them is very pleasant and effective. Both parties have set up a primary mutual trust. The next step is to strengthen and expand this effective mode of cooperation for win-win.

c. The citrus planting is done in the unit of family, involving men, women, children and the elderly. There is thereby no sexual or age difference. It will effectively secure the source of household income for women in the affected area.

d. The biggest problem reflected by farmers is irrigation. Since the local climate is very dry, the irrigation of citrus tree is often a problem. Citrus trees are mainly planted on the hill and irrigation relies on manual water carrying now, which is time consuming and effort consuming. Farmers require renovating local roads with the project fund, because the existing roads cannot meet the transport need in busy seasons.

e. Through the SA Team’ field investigation on the company and its interview with the company’s management, the SA Team thinks this company is practical, efficient and can consider citrus farmers’ interests, being an ideal project company. It should make clear the contents of technical training, so that citrus farmers can practically master planting techniques and guarantee their citrus quality to guard against the possible technical barrier to the company’s exports.
f. Although the company is held by foreign capital, it deals with production locally using citrus produced locally. It can generate almost the same social and economic benefits as other projects.

XII. Borneol Camphor Tree Project of Xinhuang Dong Nationality Autonomous County

(I) Project Background

<table>
<thead>
<tr>
<th>Construction Unit</th>
<th>Xinhuang County Borneol Development Co., Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology support Unit</td>
<td>Hunan Provincial Forestry-science College, Hunan Traditional Chinese Medicine College</td>
</tr>
<tr>
<td>Construction site</td>
<td>Xinhuang Dong Nationality Autonomous County</td>
</tr>
<tr>
<td>Main construction contents</td>
<td>Establishing 50 mu of seedling planting base, 450 mu of seedling transplanting base; establishing 20000 mu of material tree base, together with 12-km road for mechanized farming, 14-km drainage and irrigation canal, and 200 conservation pools; establishing a borneol camphor tree processing plant, with an annual output of 100 tons, together with 800 m² of manufacturing shop, 400 m² of finished products warehouse, 1000 m² of office and experiment building, and 200 m² of other building; and 4000 person-time technical training.</td>
</tr>
</tbody>
</table>

| Major techniques to be demonstrated and popularized | 1. Fast-breeding technology of borneol camphor tree seedling; 2. High-yield cultivating technology of borneol camphor tree; 3. Process engineering technology of natural borneol (patent technology). |
| Economical benefits | After the completion of the project, it will has an annual output of 40 thousand tons of fresh borneol camphor tree branches and leaves, and 100 tons of borneol, newly increasing 80 million yuan of sales income and 47 million yuan of profits and taxes. |
| Social Benefits | 1. After the completion of the project, the income of the farmers’ of the seedling tree base and material tree planting base shall yearly increase 27 million yuan above; it will provide nearly ten thousand employment opportunities for the seasonal workers, in which women labor covers 70% above; and it shall shorten the turning process from rags to riches of the ethnic minority farmers in the poor mountainous areas, accelerate the economic development of the mountainous areas, conserve water sources, hold soil and water, purify air, and improve the ecological environment. |

(II) Affected Area, Affected Farmers and Project

The project’s seedling base is situated at Aobeiluo Village, Fangjiatun Township, Miaolongtou, Miaochange, Bozhou, Mushanping villages in Bozhou Town, Changleping Village in Xinglong Town. The raw material forest base of borneol camphor and the project processing base are situated in 4 towns—Bozhou, Xinglong, Dawanluo and Fangjiatun, the fine processing plant is sited at the Xinlongao Development Zone in Dawanluo Township.

The affected area of Xinhuang County is an undeveloped remote minority mountain county in West Hunan, bordering on Guizhou Province. It is one of the provincial poor counties in the province, with a total population of 260,000 people, of which the agricultural population is 225,000 people; there are 19 minorities, the minority population accounts for 86.6% of the
total population, of which the Tong population accounts for 76%. In 2002, 90,763 farmers in
the county had per capita income of below 800 yuan, accounting for 40.3% of the agricultural
population. The county’s total area is 2,260,000 mu, including 1,900,000 mu hilly land, the per
capita hilly land area is 8.4 mu. There are rich mountain resources in the county, the climate
and soil conditions are suitable for the growth of borneol camphor.

Affected farmers are predicted to be distributed in 9 townships in Xinhuang County,
including 24 extremely poor families and 81 extremely poor people.

The SA Team made a field investigation on Tianlongtou Village in Bozhou Town.

80% villagers of this village are of the Tong nationality, 225 families and above 900 people in
total. The per capita land area is 0.8 mu. This village is the most backward one in this town,
mainly because of inconvenient traffic. Telephone didn’t appear until 2-3 years ago, now 30% farmer families have a telephone.

Farmers began to grow borneol camphor tree since 1997 and typically pick leaf for sale after
2 years. Now about 30 mu is ready for picking, involving above 20 families. There is also over
10 mu borneol camphor seedling, the cost of seedling cultivation is 0.3 yuan/piece, 0.1 yuan for
the company and 0.2 yuan for farmers. The leaf price is 0.3/catty, all belonging to farmers.

Through comparison, villagers think it worthy to grow camphor tree. For example, if you
grow 0.3 mu borneol camphor, you can earn 170-200 yuan a year, but you can earn 30-40 yuan
from sweet potato only.

Villagers are basically satisfied with their cooperation with the company, think the company’s
price is basically reasonable. They prefer a leaf price of 0.4-0.5 yuan/catty. The company has
entered into a cooperative agreement with the villager committee other than with farmers individually.

This project is popular among villagers, who’re willing to cooperate with the company for a
great development. The slogan of the company is “setting up a base uphill, setting up a plant
downhill, finding market outlet outside the hill”, they think this is a good idea.

Since the village’s traffic is inconvenient and water conservancy facilities poor, villagers hope
the project fund can be used to improve their infrastructure, especially a cross-river bridge.

Attached:

Villager Interview Case 12:

Secretary Tian, male, 57 years, his wife is 52 years, doing farm-work. His elder daughter is 34
years, doing farm work, younger daughter 31 years, serving at Huaihua Agricultural Materials
Company; little daughter 21 years, just graduating from the Changsha Health School.

Borneol camphor was discovered by Mr. Sun (Board Chairman of the company). Now there
is above 30 mu borneol camphor at our village, cultivating above 100,000 seedlings. What we
know is mainly seedling cultivation knowledge. According to the contract, a seedling costs
0.3 yuan, for which the company advances 0.1 yuan and farmers gives 0.2 yuan, the advance payment of the company will be deducted from the seedling purchase payment.

I know Mr. Sun quite well and also know that the international market is interested in borneol camphor, so we are more interested in growing borneol camphor. At the beginning, my wife was conservative and my family grew 0.3 mu only. By comparison, we found that a net profit of 170-200 yuan has been maintained. I thought the price offered for seedling is too low and have proposed a suggestion, but the price was not corrected. We’ve entered into contract with the village.

I suggest improving the roads, water conservancy facilities and makeshift bridge. Our village is not opened to traffic yet. Such improvement will benefit the development of the company and villagers. There is above 100 mu dry field in the village, 0.8 mu per capita. There is now no problem with livelihood. There was a grain base at the village but had little aftereffect due to the backward traffic. We plan to use hilly lands and dry lands to grow trees.

Borneol camphor has a high market demand and good price, with the government’s support. Therefore, we will take the hills as a base and vitalize our economy by growing tree.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

The mission supports including this proposal in the project and recommends:

- Developing mechanism to incorporate farmers’ voice into project decision-making. Farmers’ Association is a possibility which is agreed to by local officials, but this must be imbued with real power to affect key decisions.

- As there will be no other Borneol camphor production in China other than that of this entrepreneurial company, the farmers’ option to not sell the leaves to the company is an empty one and leaves them without much bargaining power. Also, if prices set for leaves are low, farmers’ “option” to sell their trees to others may also not be a real possibility. Thus the need to determine an arrangement in which the farmers’ assets (both the leaves and the tress themselves) will retain value. An option would be considering farmers to become shareholders of the company.

- As an estimated 70% of project labor will be provided by women, women’s special needs in training and in project organization must be paid attention to. Agreement reached to involve Women’s Federation to provide this.

- Need bilingual training and preferential training/selection of technical experts and managers from among Dong and Miao nationalities. County leadership agreement on this.

- Management form needs to change from idiosyncratic organization of founder entrepreneur to place the expanding business on a more professional footing. Co-suggestion of Hunan Finance Department representative Liu Lixin.
• Need to include “Five Guarantees Household” types of vulnerable farmers among the group of households chosen as project beneficiaries/participants. Co-suggestion of Hunan Finance Department representative Liu Lixin.

2. Comments and Suggestions of POCAD

This plan’s positive factors include:

a. The plan is completely compliant with the World Bank’s requirements, Xinhuang is a provincial poor county and a minority area, the poverty relief is good. The ecological project will also help eliminate barren hills.

b. The local government pays high attention to the project, regards it as the key to the county’s poverty relief, and has enacted policies and measures, provided financial aids to be used along with its poverty relief fund.

c. The technique has been patented, the project will promote its conversion.

Provincial project officials propose the following suggestions:

a. The company features small scale, poor facilities and weak processing capability. Mr. G. Gulddin prepares to support its processing process as a special case and suggests that the company improve its processing capability.

b. The company shall further enhance its management ability and realize scientific and efficient management.

3. Comments and Suggestions of Project Company

a. This project’s technical level is high and its technique is mature and reliable. This project will help shake off the independence on import, promote the development of natural borneol of China and the green traditional Chinese medicine.

b. The World Bank experts and leaders shall give guidance and financial support, so that this project can be established for development as soon as possible to convert technology into productivity.

4. Comments and Suggestions of Farmers

a. The village’s traffic is extremely inconvenient, the project is expected to help the village strengthen the traffic construction, especially the cross-river bridge, which has shut off the shortcut from the village to the outside. If the traffic problem cannot be solved, the village can hardly further participate in the project.

b. The project is expected to fund the construction of water conservancy works.

c. The company shall enlarge its scale and standardize its operation.

d. The purchase price of borneol camphor leaf shall be slightly increased on the current basis, preferably being 0.4-0.5yuan/catty.
5. Opinions and Suggestions of the SA Team

a. It can be said that this project is both a technological application and popularization project, and a typical poverty relief project and ecological project. Its execution will greatly promote the agricultural restructuring in poor mountainous areas, arrange the employment of rural women and surplus labor, increase farmers’ income, enhance the local financial resources, develop the economy in minority areas, prevent soil loss, protect the ecological environment, promote the sustainable agricultural growth and stabilize the society. This project is very significant for the company, farmers and local government, being a project worth support.

b. Since this technical achievement is still at the initial application stage, the company is not strong enough to produce great influences. However, since this technique has a good market prospect and good ecological, social benefits, the local government also offers great support, the SA Team thinks this project is very worth support and agrees with Mr. G. Gulddin that the World Bank fund shall also support the development of the company itself.

c. Since the company is just started, there will inevitably be market risks and restraints in management level, it is suggested that the government’s agricultural development dept and the World Bank conduct full course follow-up inspection and assistance.

d. Villagers’ voice for traffic and water conservancy construction shall be paid attention to, the project’s successful execution depends also on good traffic conditions and a guaranteed irrigation system, the SA Team thereby suggests the project divert 20% of its fund for the construction of traffic, water conservancy and other infrastructure, and give prior consideration to villages and towns with the greatest need.

XIII. Miluo Jiahua cattle industry project

(I) Project Background

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<th>Construction Unit</th>
<th>Hunan Jiahua Biotechnology Development Limited</th>
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<td>Technology support Unit</td>
<td>Academy of Animal Nutrition Sciences of China Agricultural University, National Corn Improvement Center; Stockbreeding Institute of Chinese Academy of Agricultural Sciences</td>
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<tr>
<td>Construction site</td>
<td>Cili County, Pingjiang County, Miluo City</td>
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<tr>
<td>Main construction contents</td>
<td>Construction coverage of the company: 1) fine breed breeding center with annual livestock amount of 500 cows; 2) purchase 500 quality cows form other provinces; 3) build 2500m² cowshed; 4) build 200m² laboratory; 5) build 1800m² county/township service stations; 6) purchase 100 sets of equipment. Construction coverage of farmers: 1) 22500m² cowshed; 2) 12500m³ silo bin; 3) 7200m³ methane tank; 4) build 11900mu pasture; 5) purchase 1800 cows from other provinces; 6) purchase 18 sets of instrument/equipment.</td>
</tr>
<tr>
<td>Major techniques to be demonstrated and popularized</td>
<td>1) Beef cattle breed hybrid technique; 2) frozen semen breeding technique; 3) beef cattle scientific fattening technique; 4) calf standard raising and management technique; 5) pasture planting and management technique; 6) farmers beef cattle breeding network control technique; 7) biotechnology.</td>
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</table>
### (II) Affected Area, Affected Farmers and Project

This project has selected 3 affected areas, 2 of which are state-level poor county and province level poor county, another is Miluo City where Jiahua Company is headquartered, close to the provincial capita of Changsha City. The Cili project area consists of Nanping, Gaoqiao, Xikou and Jinya towns under Cili County, the Miluo affected area consists of Honghua, Huangshi, Xinshi and Chutang towns under Miluo City, the Pingjiang affected area is a hilly pasture area, consisting of 3 towns under this county.

This project’s affected area Pingjiang County is a state-level poor county, whose per capita farmer income in 2001 was 1297yuan, 41.03% lower than the provincial average in the same period; Cili County is a province-level poor county, whose the per capita farmer income in 2001 was 1636yuan, 25.6% lower than the provincial average in the same period.

According to the preliminary investigation, the 3 counties in the affected areas of the project have altogether 739,900 agricultural laborers, most young adult laborers are working outside in Guangdong, Shanghai, etc. 1/2 of the agricultural labor there is currently undertaken by women. Accordingly, the main operator of beef cattle breeding under this project is mainly women, and the main subject of breeding technical popularization is also women.

**The SA Team conducted a field investigation on Xinqiao Village under Xinqiao Town.**

The village head says, we know about this project and wanted to raise cattle long ago. There are above 10 cattle raisers. After Jiahua was founded in Miluo, we got guarantee in technique and marketing. At the beginning of 2003, there were above 60 cattle raising families (totally 583 families in the village), raising above 120 heads of cattle, a cattle raising association was founded. The village head’s family now has 35 cows and 25 oxen.

Farmers began to cooperate with Jiahua in 2003 through the cattle raising association, which was organized spontaneously by villagers under the government’s proposal in May 2003. The association provides farmers with technical support, information and is based on the service agency of Jiahua. There are 4 specialized fish culture families at the village, each earning over 10000yuan a year. The income on fishing business may be 70,000-80,000yuan/year. Above 70 villagers are working outside the province.

The participation in the project has undergone the advocacy and mobilization by the city government with the aim of developing Jiahua into a local leading enterprise. Cattle raising is less costly, only labor is needed. A calf grown to 400 catty can be sold to Jiahua for fattening. Farmers may directly contract with Jiahua, but mostly have contracted with the association. The benefit of cattle raising is apparent, a family raising 2 heads of cattle can earn 2000yuan a year. They expect to sell beef cattle and obtain technical service through Jiahua. The agreed price is 3.2yuan/catty. The association contracted with Jiahua after collective discussion for a
suitable term of 3 years from 2003 to 2005. We think that we now have money to earn, at least better than growing paddy rice and raising pig. Jiahua has given us two times of centralized training and some door-to-door training. The techniques of training include adaptation of beef cattle in the south, how to raise cows and oxen. The most desired technique is feed formula.

Attached:

Villager Interview Case 13:

Jiang X, female, 45 years, graduate of primary school.

My family has 5 members, 5mu field, growing paddy rice and melon, total income of about 5500yuan/year, including agricultural income of 3300yuan, my husband’s income from work outside of above 2000yuan. Our expenses include: entertainment expenses of above 1000yuan, children’s tuition of 1400yuan. In Apr 2002, I borrowed 3000yuan and bought 2 cows.

My husband and I jointly decided to participate in this project and would attend whatever technical training.

(III) Comments and Suggestions

1. Comments and Suggestions of the World Bank Mission

After discussions with CANWA management, the mission recommended that, in order for the mission to fully understand and evaluate their proposal, a written pre-feasibility study be prepared and submitted to the mission through the official SOCAD/POCAD channels. The pre-feasibility study or proposal should use the same format and model that other potential project entities have used to formulate their proposals.

2. Comments and Suggestions of POCAD

This project’s positive factors include:

a. Compliance with the industrial policy, paid attention to by the provincial government and the local government.

b. The project executive unit has a strong processing capability of 60,000 heads.

c. The company has solid strength and above 100 million yuan investment.

d. The driving action on farmers is extensive, covering 3 bases: Miluo City, Pingjiang and Cili.

e. The project supports the breed improvement and the base’s development, producing good social and economic benefits.
Suggestions:

a. The company has already greatly increased its processing capability, but does not have a secured source of raw materials yet or a stable large-scale base. This project shall be focused on the base’s construction.

b. The product’s market development capability shall be enhanced.

3. Comments and Suggestions of Project Company

a. In executing the cattle raising pattern of “company + farmer”, the company’s greatest worry is farmers’ good faith and hopes the local government and the 2 village-level committees can assist the future cattle raising association in supervision.

b. The agro-tech station and the 2 village-level committees at each affected township shall assist in the technical training and guidance to farmers.

4. Comments and Suggestions of Farmers

a. The breeding period of cattle is long and economic benefits come slowly, there must be sufficient revolving funds. The project shall provide longer-term discount interest loan or provide subsidy for the cattle purchase payment.

b. The company shall provide pertinent training more frequently.

5. Opinions and Suggestions of the SA Team

a. The project base contains state-level poor county Pingjiang and province-level poor county Cili, there is a certain effect of poverty relief.

b. Beef is not a traditional meat food in China. Affected by habits, the beef consumer market in China is not large. Accordingly, the company shall use effort in developing the market.

c. The original target market of the company is foreign countries, but now, with the impact of SARS, it targets the domestic market. Although based on the company’s strength, the SA Team accepts its market development capability, the company shall still endeavor to develop the overseas market to minimize farmers’ possible market risks.

d. This project is supported by both the Hunan Provincial Government and the Project Management Department in industrial policy and funding, which is advantageous to the project’s execution. The SA Team worries whether such powerful support would lead to politicization of the company’s behavior and thereby affect its independent operation and reduce the efficiency of project execution. The SA Team suggests the World Bank and Hunan PADO shall pay attention to this.

e. The company shall pay full attention to farmers’ dependence on the traditional beef cattle breeds and traditional method of cattle raising, and have a clear mind about its resulting impedance. The company shall give a clear comparison between new/old
breeds and breeding methods in technical training and guidance, so that cattle raisers can accept new varieties and breeding techniques as soon as possible.

III. Farmer Beneficiary Participation Program

This chapter makes an analysis and evaluation of the possible farmer benefits from the Hunan World Bank Financed Agro-tech Demonstration and Popularization Project, and proposes a participatory activity program of farmer beneficiaries. It plans to analyze farmer beneficiaries and benefiting environment, expected benefits of farmer beneficiaries, credit organizations that can be utilized by beneficiaries, propose constructive suggestions to guarantee benefits, draft participatory activities of beneficiaries centering on the 13 projects.

I. Background of Farmer Beneficiaries

- Spatially, there will be 2 types of benefited areas in the execution of the 13 projects: core benefited area refers to relevant towns, bazaars, villages and other small communities in the 12 districts, the project fund will be used and allocated here and direct beneficiaries gather here. Marginal benefited area means communities around the above communities, where indirect beneficiaries are distributed. The project execution’s radiating effect will decrease from the center. Accordingly, the marginal area can be subdivided into 3 levels: Level 1 marginal area, referring to areas around affected towns, which are mostly in the same county; Level 2 marginal area, referring to areas farther away from affected towns, which are outside the county and inside the province; and Level 3 marginal area refers to rural and urban areas outside the province affected by the project. The farther residents are from the center, the more indirect the relationship with the project is.

- By number of people, 96,000 farmer families have participated in this project, including 300,000 farmers, being direct beneficiaries. About 1 million farmers around the affected area are indirect civilians.

- By time effect, the anticipated benefit duration is about 10-15 years, of which the benefit from infrastructure construction and technical popularization will be long lasting. It is estimated that the first 10-15 years will be the highly beneficial period, the benefit might weaken afterwards.

- By basic composition of the benefited public, all farmers (including women, the elderly and children, workers outside, followers, minorities, poor) in the project execution area constitute the basic public directly benefited from the project.

- By composition of benefited disadvantaged groups, the poor, minorities, women, elderly and children in the base counties/cities of the 13 projects are components, of which the local poor are worth special concern.
II. Benefiting Environment of Farmer Beneficiaries

- By natural environment, the 12 cities/counties covered by the project occupy different zones of Hunan with their respective distinctions, which are highly adapted to the subject of planting to be popularized by the project.

- In terms of social environment, the economic hierarchy in the affected area is in a normal distribution; women’s status has been greatly improved, almost the same as men; farmers basically live by nationality; the culture is very compatible, people of different faiths and ethnic groups can get along harmoniously.

- In terms of economic environment, there is the history and public base for the subject of planting or breeding popularized by the project everywhere, and a marketing network is in place, which will help develop the project.

- In terms of infrastructure, there are primary traffic base, communication base and water conservancy base everywhere.

- In terms of organizational building, there is a primary agro-tech popularization network everywhere. Somewhere, there is already an industrial association for planting/breeding, such as the cattle raising association in Lianyuan City and Cili County, the seed industry association in Suxian District, Chenzhou City.

- All levels of party and government organizations in the affected area have paid extreme attention to the project. On the forum of the executive units, leaders concerned attended in person. In China today, the attention of the government is an important guarantee to the success of the project.

III. Expected Benefits of Farmer Beneficiaries

- Most interviewed farmers have placed great expectations in the project and think that if the project can be actually executed as planned, it will bring great returns to them. Such great profits come from the new variety and new technique popularized by the project, organized production and management, marketing organized by the company, support of the project to the startup fund of farmers for production, infrastructure construction and maintenance conducted in the project.

- They mostly believe, the project’s execution will solve such problems as inconvenient traffic, desolation of irrigation facilities, difficulty in raising startup fund, unavailability of new techniques, insufficient market information, imperfect marketing system, etc, so as to promote the local economic growth.

- Farmers have great zeal and durability in participating in the project. It can be said that whether regardless of age, educational background, ideology, experience, knowledge, household income, state of operation, farmers are highly active for the project, they also hope the project can be launched as soon as possible.
However, farmers somewhere worry the screening of affected farmers might trigger any contradiction between cadres and the public, among village or villagers, thereby affecting the project’s execution and expected benefits.

IV. About Foundation of Folk Organizations

As required by the World Bank and reflected by farmers, the SA Team thinks it necessary to have farmers in the project execution area found their own industrial associations.

Except industrial associations established for the project, it’s not recommended to set up any new organization, because the setup and operation of a new organization would be very costly and might trigger contradictions between new ones and old ones.

The role of the existing organizations should be given fully play to, which can both save costs and utilize the social resources of the existing organizations. Such organizations include 2 village-level committees, villager team, women’s federation, League organs and functional branches transferred down by the county government to the township (e.g., water management station, agro-tech station, agro-economic station, fine variety station, savings house). Many similar existing organizations have their respective value.

V. Beneficiary Participatory Activity Program

(I) Comments on Ensuring Beneficiaries’ Full Participation of Project Activities

During the project design and execution, to ensure all kinds of project beneficiaries can get information related to the project timely, and have equal opportunities to raise their comments and suggestions for corresponding issues, also in order that the project executive unit and the supervisory and managerial bodies can make scientific decisions based on a practical mastery of the project execution progress, the project executive unit and managerial bodies can make arrangements with reference to the following:

1. Release project information to farmers in the affected area regularly or irregularly free of charge by, for example, posting a notice at administrative village, so that all beneficiaries can obtain relevant information and provide feedback timely.

2. The organ in charge of the project can set up a suggestion box or reception department to collect beneficiaries’ opinions and voices extensively to keep through the communication channel between project managerial personnel and beneficiaries, timely grasp the project progress, make practical revisions to ensure the effective execution thereof.

3. The information reported by the project managerial department shall include the project plans, detailed implementing rules drafted by the World Bank, Hunan project managerial body and project executive units, project progress, financial budget, market conditions.
Moreover, the operating regulations and dynamics of all planting/breeding associations established under the project shall also be informed to farmers gratuitously.

4. In view of the relatively disadvantaged position of women in social life, and participants in some projects (Qidong green yellow day lily project, Changsha County nuisance-free vegetable project and Hunan Zhenghong live pig project, etc) are mostly women. The existing women organization—women’s federation—should be fully utilized to ensure women’s right of equal participation and improve their ability of participation. It may be considered to appoint a corresponding proportion of women in each association, or the women’s federation shall act as the spokesman for women, maintain women’s interests in the project decision-making and execution process in the name of an organization.

5. Considering the present situation of Chinese rural areas and the actual need to improve women’s status, it’s suggested that in each planting/breeding association, women should account for about 30%. For any scheme that prejudices the sexual equality, the one-vote veto system shall apply.

6. For minority beneficiaries, preferential policies shall be implemented with reference to the existing minority policies of the government. In project execution, fully respect the cultural habits of minorities, avoid violently separating the synchronous development of their economy and culture. In specific operations, the existing minority managerial body—the nationality committee—should be counted upon for coordination or management.

7. Farmers may participate in the project design, execution and monitoring through the association or the 2 village-level committees. Each planting/breeding association shall collect problems arising from the project execution of farmers’ comments, and feed them back to the executive unit, project monitoring department and the World Bank.

(II) List of Participatory Activities

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<td>2. Changsha County nuisance-free vegetable</td>
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<td>Management and supervision of corporation for newly established project</td>
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<td>Fixing of vegetable purchase price</td>
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<td>Allocation of melon and fruit saplings among administrative villages</td>
<td>Allocation of melon and fruit saplings among administrative villages</td>
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<td>Fixing of purchase price of raw, dry yellow day lily</td>
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<td>Design and settlement of claim of cattle raising insurance</td>
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<td>Determination of steps and schedule of variety improvement</td>
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(III) List of Participatory Activities of Beneficiaries

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| **Drafting the technical training and guidance program** | ● Determination of contents and manner of technical training, guidance and service  
● Determination of schedule of technical training, guidance and service  
● Association members and affected farmers not affiliated to association  
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| **Operation of the project fund directly used on farmers** | ● Determine purpose of fund  
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● Negotiate fund allocation plan  
● Association members and affected farmers not affiliated to association  
● Reps of local government and village cadres  
● Company rep.  
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**the World Bank**  
**Provincial project management dept**  
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| **Local infrastructure construction planned by the project** | ● Participate in plan design  
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● Executive unit  
● Affected farmers  
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● Joint forum of participating farmers, village cadres, company, technical experts and government rep  
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**Company**  
**Association**  
**Local government**  
**Villager committee** | Project construction period |
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<td>Fixing of vegetable purchase price</td>
<td>Fix vegetable purchase price</td>
<td>Association meeting Company’s general meeting of shareholders Association</td>
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<tr>
<td>3. Shaoyang quality melon &amp; fruit seed project</td>
<td>Allocation of melon and fruit saplings among administrative villages</td>
<td>Affected farmers Association, Village cadres Association Meeting Villager meeting</td>
<td>Project construction period</td>
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<tr>
<td>4. Qidong green yellow day lily project</td>
<td>Fixing of purchase price of raw, dry yellow day lily</td>
<td>Affected farmers Association, Company Government rep. Association Meeting Forum of association and company</td>
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<td>6. Hunan cow embryo transplantation project</td>
<td>Monitoring and evaluation of milk quality</td>
<td>Affected farmers Association, Company’s milking station Association Meeting Forum of farmers and company</td>
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<tr>
<td>Fixation of charging standards for compensated epidemic prevention and treatment</td>
<td>Formulate method of compensated epidemic prevention and charging standard</td>
<td>Association meeting Company’s technical service station Township agro-tech station Association meeting</td>
<td>Project period</td>
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<tr>
<td>Design and settlement of claim of cow death insurance and elimination insurance</td>
<td>Formulate insurance plan, Supervise settlement of claim for insurance</td>
<td>Affected farmers Association, Insurance company Association Meeting Company Government rep.</td>
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<tr>
<td>7. Hunan Negotiation of</td>
<td>Learn market</td>
<td>Affected Association Project</td>
<td>Project period</td>
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<tr>
<td>Project Type</td>
<td>Determination of steps and schedule of variety improvement</td>
<td>Determination of improved breed</td>
<td>Design mode and steps of improvement</td>
<td>Design the improvement schedule</td>
<td>Affected farmers</td>
<td>Technical experts</td>
<td>Company</td>
<td>Association</td>
<td>Meeting</td>
<td>Project construction period</td>
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<td>8. Changde triploid white poplar project</td>
<td>Allocation of white poplar sapling in the village</td>
<td>● Determine principle of allocation</td>
<td>● Supervise specific operation</td>
<td>● Affected farmers</td>
<td>● Association</td>
<td>● Village cadres</td>
<td>● Village meeting</td>
<td>● Government rep.</td>
<td>● Association</td>
<td>● Villager committee</td>
<td>Project construction period</td>
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<tr>
<td>9. Chaling oil tea project</td>
<td>Determination of steps and schedule of variety improvement</td>
<td>● Select improved breed</td>
<td>● Design mode and steps of improvement</td>
<td>● Affected farmers</td>
<td>● Technical experts</td>
<td>● Company</td>
<td>● Association</td>
<td>● Town farm machinery station</td>
<td>● Forum of farmers, experts and company</td>
<td>● Association</td>
<td>● Forum of association and company</td>
<td>Initial period of project construction</td>
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<tr>
<td>10. Ruanjiang citrus project</td>
<td>Determination of steps and schedule of variety improvement</td>
<td>● Select improved breed</td>
<td>● Design mode and steps of improvement</td>
<td>● Affected farmers</td>
<td>● Technical experts</td>
<td>● Company</td>
<td>● Association</td>
<td>● Town farm machinery station</td>
<td>● Forum of farmers, experts and company</td>
<td>● Association</td>
<td>● Forum of association and company</td>
<td>Initial period of project construction</td>
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<tr>
<td>11. Yongzhou citrus project</td>
<td>Determination of steps and schedule of variety improvement</td>
<td>● Select improved breed</td>
<td>● Design mode and steps of improvement</td>
<td>● Affected farmers</td>
<td>● Technical experts</td>
<td>● Company</td>
<td>● Association</td>
<td>● Town farm machinery station</td>
<td>● Forum of farmers, experts and company</td>
<td>● Association</td>
<td>● Forum of association and company</td>
<td>Initial period of project construction</td>
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<tr>
<td>12. Xinhuang borneol camphor project</td>
<td>Fixing of purchase price of borneol camphor leaf and sapling</td>
<td>● Learn market conditions</td>
<td>● Negotiate the price</td>
<td>● Affected farmers</td>
<td>● Association</td>
<td>● Company</td>
<td>● Government rep.</td>
<td>● Technical experts</td>
<td>● Agreement meeting</td>
<td>● Association</td>
<td>● Forum of association and company</td>
<td>Project construction period</td>
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<tr>
<td>13. Miluo Jiahua cattle industry</td>
<td>Determination of improved breed, mode and steps</td>
<td>● Select improved breed</td>
<td>● Design mode</td>
<td>● Affected farmers</td>
<td>● Technical</td>
<td>● Forum of farmers, experts and company</td>
<td>● Association</td>
<td>● Technical support unit</td>
<td>● Executive unit</td>
<td>● Association</td>
<td>Initial period of project construction</td>
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Chapter 4 Overall Review and Discussion

The project application work in Hunan commenced since Aug 2002. Presently, all levels of project management department have a clear mind in work and a thorough understanding of the World Bank’s intent, the preparation and demonstration of preliminary materials of all the project applicant units is very adequate, the project design is feasible. In Mar 2003, the final conclusion made by World Bank officials has also proven this.

The SA Team has carefully read the feasibility study report of each project, discussed about doubts with all levels of project officials, project executive units and the representatives of the local government, and consulted all available references to get a thorough understanding of each project. By means of face-to-face discussion and in-depth interviews with project offices, project executive units, technical experts, local government representatives ad local farmers, the SA Team was able to learn the project’s details and comments, opinions, suggestions from all interest groups. On the final forum with Hunan PADO’s officials, the SA Team obtained their commitment to full support to all the projects that they made forwardly, which includes the Provincial Department of Finance shall acquire the counterpart fund and guarantee the use of 50% of the project fund on farmers with strict accounting system. This commitment has enhanced the team’s confidence in the Hunan project.

Generally, the SA Team recognizes the 13 projects under this social assessment in Hunan and believes that the participating units have the ability to well execute the projects, achieve the expected economic and social benefits. However, the World Bank and the provincial project management dept shall conduct strict supervision and irregular spot-check on the practical operation of each project, which is a necessary measure to ensure the fulfillment of the project. All detailed comments and suggestions for each project have been given hereinbefore.

Below, we will summarize and discuss the concerns of the World Bank.

I. About Agro-tech Popularization and Training

(I) About Agro-tech Popularization

Based on the present agro-tech popularization in Hunan, the general situation is good in China. Hunan is both a major agricultural province and strong province in agro-tech, boasting strong agro-tech forces, integrated scientific research capabilities, perfect agro-tech popularization service network and farmers’ strong desire for advanced agro-tech,
accordingly, the agro-tech popularization work of Hunan is advanced nationwide. Some patterns, such as “technology + company +farmer”, created by this province have played an importance role in popularization of agro-tech. However, in general, there is still a disparity with the ideal objective. According to the SA Team’s learning, such disparity can be attributed to the following difficulties:

a) Overall technical, cultural level of numerous rural laborers is to be improved and some of their concepts need updating;
b) Some rural grassroots technical popularization service systems are unsound, including poor conditions, backward equipment, outdated knowledge of technicians;
c) The agro-tech system is not adapted to the growth of market economy, scientific research is disengaged with the actuality of agricultural production, only approx. 30% agro-tech achievements made by scientific research institutions can be popularized and applied on a large scale;
d) The funds for technical popularization are scanty, the mode of technical popularization is to be further explored and innovated.

Since the agro-tech popularization is the focus of this project, how to solve the above problem has become a significant thing. As a summary of the SA Team’s investigation, we recommend the following measures as a solution to the above difficulties.

e) Conduct agricultural scientific research according to the actual demands of agricultural production, combine agriculture, scientific research and education, enhance the effort of technical achievement conversion and popularization into productivity;
f) Play the role of market mechanism, capitalize sciences and technologies, so that both technicians and farmers can benefit reasonably from the popularization and application of technical achievements;
g) Reform the agro-tech system, promote the combination of scientific research with actual production, technicians with farmers, technical achievements with companies, giving rise to the benign development mode of “technology +company +farmer”.
h) Enhance the support to agro-tech popularization beginning with fund investment, policy guidance and service providing, so that agro-tech can be popularized to every family to enhance the competitive power of farm products, realize the sustainable development of agriculture and rural economy.

(I) About Agro-tech Training

Generally, farmers have great apprehension of risks from the popularization of new varieties and techniques. Practically, the small-scale peasant economy in China is very vulnerable, then provided that farmers can just maintain their livelihood now, most of them dare not risk trying a new variety but prefer traditional agricultural operations. Accordingly, the agro-tech training is very significant. By investigation, the SA Team thinks:
In the 11 cities investigated, the knowledge of agro-technicians is badly outdated. With short time and low frequency of village training, many farmers can seldom get their help, which situation must be changed by the project. Since technical training and services in the project depend only on the existing township agro-tech stations and technicians, the SA Team thinks it necessary to enhance the management and training for existing township agro-technicians and involve them in the technical training, guidance and service of this project.

In the meantime, to achieve better results, the agro-tech popularization and training must be combined with local resources, market system, soil and climatic conditions, also be focused on demonstration, attracting farmers to grow new varieties and apply new techniques with concrete examples. In specific operations, pay special attention to training for disadvantaged groups. For example, the poor, minorities, women and the disabled are beneficiaries with the greatest need of help, whose training requirements shouldn’t be neglected.

In addition, according to farmers’ feedback and field investigation, the SA Team suggests the adoption of continuous, repeated training methods with theory combined with practice, so that farmers can really master the agro-tech to be demonstrated and popularized by the project. A farmer in Changsha County said, “I couldn’t remember anything for the first time of training, but after the second time of training and the concrete guidance, I could remember what was taught firmly.” Accordingly, all project executive units shall fully consider this characteristic of farmers in receiving new knowledge when formulating the technical training program.

II. About Scheduling of Project Construction

Most farmers and companies in the affected area expected the project can be approved and executed as soon as possible. Take the Changsha County nuisance-free vegetable project as an example, this company, for fear of missing this good opportunities, has raised 16 million yuan for the preparatory construction together with the government and is ready to start production in August to occupy the market as soon as possible and lay a foundation for future execution of the project. However, such investment is insufficient. Accordingly, the company eagerly hopes the project approval can be completed as soon as possible. In the field investigation of the SA Team, they also cherished an eager aspiration, because the earlier the project is started, the sooner they can benefit therefrom. A farmer says, the company is presently short of fund and hopes the project can be executed sooner to generate benefits and drive the economic lift off of the village, town and county.

In its investigation on other projects, the SA Team has also heard the same voice. Project managerial officials at Hunan PADO has also expressed the same expectation, thinking that it is necessary to grasp the opportunity quickly, because once a project is seriously delayed, its benefit might be discounted. In view of the above feedback, the SA Team requests the World Bank to complete the final approval of the project and provide the fund as soon as possible, so as to achieve the best benefit.
III. About Mode of Participation of “company + farmer”

The project management department of Hunan thinks the most suitable participatory pattern is “technology + leading enterprise + farmer” or “technology + leading enterprise + base + farmer”, i.e., the “scientific research personnel + investor + farmer” proposed by World Bank experts for technical popularization.

It can also be seen from the feasibility study reports of the projects that, most projects have the plan to set up a farmer association, and some affected areas have already founded some farmer associations, such as cattle raising association, association of citrus farmers, melon and fruit association, etc. These associations are nongovernmental farmer organizations, acting as the bridge of communication with the government and the company, they are responsible for coordinating the relationship between the company and farmers, solve practical problems in production and marketing, maintain farmers’ legal rights and interests.

In recent years, with the development of market economy, the “company + farmer” pattern has arisen accordingly and been popularized quickly. Some agricultural industrialization leading enterprises under the project in this province have established or are establishing the “leading enterprise + base + farmer” or “leading enterprise + farmer” development pattern. The data they provided and the field investigation prove that, this pattern suits the development of market economy and the practical conditions of agricultural production, good to pushing farmers to the market, protecting farmers’ interests, developing agricultural production and achieving the ideal result of win-win between the company and farmers.

Take Hunan Yahua Seeds Inc.—the executive unit of the Hunan cow embryo transplantation project—as an example, before this project was established, its Nanshan Subsidiary based in Chengbu Miao Autonomous County had already adopted this “company + farmer” operating pattern and achieved certain results. Here are several examples:

a) Specialized cattle raiser Zhang Zisheng at Banli Village in the Nanshan Range borrowed 600,000 yuan from Nanshan Subsidiary in 1998, purchased 37 cows and set up a private cattle farm. After 5 years’ breeding, 20 cows have been sold, earning profits of 300,000 yuan. Now 48 cows remain, including 20 milking cows, 20 backup cows and 8 calves. With the company’s technical guidance, this private cattle farm ensures high milk quality by means of mechanical milking, etc, with an annual average milk output of 6t/head, per head net profit of 7000 yuan, with all fresh milk purchased by the company. It now owns fixed assets worth 800,000 yuan, quality pasture hills of 2000 mu, annual average income of 150,000 yuan. By 2005, he plans to raise 100 quality cows, realize annual income of 400,000 yuan and employ 7 farmers to drive surrounding farmers to raise cows.

b) Hong Qijun, at Yangcaitang Village in the Nanshan Range borrowed 1 million yuan from Nanshan Subsidiary in 2000 to buy 60 cows, build 2 cowsheds and explore over 1000 mu quality pasture hills. Now there are 74 cows at his private range, including 38 milking cows, 24 backup cows and 12 calves. The cows that he raises have high milk...
output up to 8t/head and high milk quality, the per head net profit is above 6000 yuan, the fresh milk is purchased completely by the company.

In addition, Hunan Xuefeng Seed Limited—the executive unit of the Shaoyang quality melon & fruit seed project, Tianhua Stockbreeding Limited of Hunan Wujiang Group—the executive unit of the Lianyuan beef cattle project, Hunan Zhenghong Technologies Development Inc.—the executive unit of the Hunan Zhenghong live pig project, Xinhuang Borneol Development Limited—a the executive unit of the Xinhuang borneol camphor project—have dealt with the practical operation of the “company + farmer” pattern before project application. Seen from the feedback and the SA Team’s field investigation, the practice is successful and has been favored by participating farmers.

IV. Project Beneficiaries

According to different parties’ comments and the SA Team’s investigation, the beneficiaries of this project should include companies undertaking the project, affected farers, educational, scientific research units and relevant technicians providing technical guidance and service to the project, the government, enterprises and individuals concerned providing equipment and services to the project. The greatest expected beneficiaries are affected farmers, because they have not only obtained direct investments under the project, but also developed production, increased products and income, obtained new techniques and skills, opened their eyes. The companies are also important beneficiaries, which can obtain stable raw materials supply by constructing raw materials bases for processed products, which may help control the quality of raw materials centrally and help the company produce competitive products. In addition, the government has got indirect benefits by taxation increase, technical units and technicians concerned have obtained opportunities of agro-tech popularization and application and can benefit actually. Enterprises and individuals concerned providing equipment and services to the project have obtained commercial profits by marketing.

V. Participation of Affected Farmers and Women

Affected farmers are mainly those in the project execution area, all of whom are very active in participating in the project construction by contributing labor and investment, with a strong desire for new agro-tech. In all the 13 projects, women are involved, accounting for about half of all project participants. Some projects involve women mainly, such as the Zhenghong live pig project and Qidong green yellow day lily project.

Through field investigation and interview with farmers in the affected area, the SA Team thinks women are mostly zealous for participation and technical training. In addition, since women are indispensable to most agricultural projects (such as the Zhenghong live pig project, Yahua cow project), women are playing a crucial part in the project. However, since women’s overall educational level is lower than men, it’s then suggested to design the teaching practice, teaching materials and technical publicity materials based on this basis.

During interview, some women proposed to give them more employment opportunities. For example, a job that can be done by either men or women is preferably provided to women.
The SA Team accepts such proposal and suggests the World Bank require project executive units to give prior consideration to women.

VI. About Perception of Project Risks

The executive units of the projects mostly have a clear and objective perception of market risks. However, affected farmers do not have a full perception, because most market risks have been assumed by the company, and farmers usually lack an adequate understanding and correct estimation of the market.

In addition, during investigation, the SA Team finds that many farmers excessively believe in the power of the government and company, but underestimate the moral risk of the company and possible corruption of the government. Moreover, farmers have inadequate understanding of technical risks and have the inclination of blind adoration for techniques.

In view of the above condition, the SA Team suggests to give guidance and education on the sense of risk to farmers, so that they can get a correct understanding of risks to be faced and make full preparation mentally.

VII. About Project Monitoring

According to the introduction of Hunan project officials and field investigation, the provincial agricultural integrated development office has a foreign capital division for the monitoring of foreign funded projects, the city/county-level agricultural integrated development office also has a person specially signed to account for the World Bank financed agro-tech project. Thus, the agricultural integrated development departments at the 3 levels constitute the monitoring system for the execution of the project.

Each project-undertaking company also plans to assign a person specially to account for the inspection and supervision on project execution. The exiting or planned farmer associations in the affected area will also have someone involved in the inspection on project execution. In this way, both the company and farmers can participate in the project monitoring and learn the project progress timely.

However, the above monitoring system alone is insufficient, the SA Team thinks the World Bank should cosign an independent intermediary to supervise and inspect the execution of the project regularly and irregularly.

**Attached Table**

Activities of the SA Team of Hunan World Bank Project

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<thead>
<tr>
<th>Date</th>
<th>Morning</th>
<th>Afternoon</th>
<th>Night</th>
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<tbody>
<tr>
<td>July 1</td>
<td>Meet with PADO</td>
<td>Negotiate the schedule with provincial project</td>
<td>The SA Team discusses procedure</td>
</tr>
<tr>
<td>Date</td>
<td>Activity Details</td>
<td>SA Team Activities</td>
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<tr>
<td>July 2</td>
<td>Investigate the Changsha County nuisance-free vegetable project, hold company forum, visit the project base</td>
<td>Hold villager forum, visit the technical support unit of the Hunan double-strain super hybrid paddy project—National Hybrid Paddy Engineering Center</td>
<td>The SA Team discusses and collates that day’s data, prepare for the next day’s interview</td>
</tr>
<tr>
<td>July 3</td>
<td>Investigate the Hunan Zhenghong live pig project, hold company forum, visit the project base</td>
<td>Hold villager forum at noon, investigate the Miluo Jiahua cattle industry project, hold company forum in the afternoon</td>
<td>Hold villager forum, collate data, discuss the next project</td>
</tr>
<tr>
<td>July 4</td>
<td>Investigate the Ruanjiang citrus project, hold company forum</td>
<td>Hold villager forum, go to Changde</td>
<td>Collate data, discuss the next project</td>
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<tr>
<td>July 5</td>
<td>Investigate the Changde triploid white poplar project, hold company forum</td>
<td>Hold villagers forum</td>
<td>Collate data, discuss the next project</td>
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<td>July 6</td>
<td>Go to Xinhuang</td>
<td>Investigate the Xinhuang borneol camphor project, hold company forum</td>
<td>Collate data, discuss the next project</td>
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<tr>
<td>July 7</td>
<td>Hold borneol camphor the project villagers Forum</td>
<td>Go to Chengbu County</td>
<td>Discuss with local government officials, collate data, discuss the next project</td>
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<td>July 8</td>
<td>Investigate the Hunan cow embryo transplantation project, hold villager forum</td>
<td>Go to Shaoyang City</td>
<td>Collate data, discuss the next project</td>
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<td>July 9</td>
<td>Investigate the Shaoyang quality melon &amp; fruit seed project, hold company forum</td>
<td>Hold villager forum, go to Lianyuan City</td>
<td>Collate data, discuss the next project</td>
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<td>July 10</td>
<td>Investigate the Lianyuan beef cattle project, hold company forum</td>
<td>Hold villager forum, go to Yongzhou City</td>
<td>Collate data, discuss the next project</td>
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<td>July 11</td>
<td>Investigate the Yongzhou citrus project, hold company forum</td>
<td>Hold villager forum, go to Qidong County</td>
<td>Collate data, discuss the next project</td>
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<tr>
<td>July 12</td>
<td>Investigate the Qidong green yellow day lily project, hold company</td>
<td>Hold villager forum, go to Chenzhou City</td>
<td>Collate data, discuss the next project</td>
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<td>Date</td>
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<td>July 13</td>
<td>Investigate the Hunan double-strain super hybrid paddy project, hold company forum</td>
<td>Hold villager forum, go to Chaling</td>
<td>Collate data, discuss the next project</td>
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<tr>
<td>July 14</td>
<td>Investigate the Chaling oil tea project, hold company forum</td>
<td>Hold villager forum, go to Changsha</td>
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<td>July 15</td>
<td>Rest</td>
<td>Collate data</td>
<td>The SA Team discusses the province-wide the project situation, exchanges learning</td>
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<td>July 16</td>
<td>Collate and input data</td>
<td>Discuss with PADO officials</td>
<td>Collate and input data</td>
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<td>July 17</td>
<td>Investigate the Hunan cow embryo transplantation project, hold company forum</td>
<td>Collate and input data</td>
<td>Collate and input data, the SA Team discusses</td>
</tr>
<tr>
<td>July 18</td>
<td>Collate and input data</td>
<td>Rest</td>
<td>The SA Team summarizes the 13 projects in Hunan, outlines the sub-report</td>
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<tr>
<td>July 19</td>
<td>Go to Anhui</td>
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