Stakeholder Meeting

Kyowa Hakko Kirin has held stakeholder meetings since 2005. This year's meeting was held at Kyowa Hakko Bio Yamaguchi Production Center Ube, following a tour of the facilities. We obtained stakeholder opinions concerning ecosystem protection activities, such as forest conservation.

Date : July 29, 2009
Venue : Kyowa Hakko Bio Yamaguchi Production Center Ube
Theme : Company's Role in Forest Conservation

Forest, River and Sea Ecosystem Conservation

Azuma: One ecosystem conservation activity companies frequently engage in is environmental pollutant emissions reduction. We would like to hear your opinions about what other activities companies can pursue to protect ecosystems. For instance, what about forest conservation?

Yoshimitsu: The Yamaguchi Chuo Forest Owner's Association is engaged in a collaborative activity among people whose livelihoods depend on forests, rivers and the sea. It started when a local fishermen's cooperative pointed out, through the Yamaguchi City government, that devastation of the ocean and decreasing fish catches necessitated consideration of upstream environmental problems. In response, we began the Fushino River basin revitalization activities in 2000 as a joint attempt to resolve the problem. We recruited members of the Fushino River Fisherman's Cooperative, Yamaguchi Chuo Forest Owner's Association and a local agricultural cooperative for a seashore cleanup. We gradually expanded the scope of activities, going to the mountains to thin forests or cleaning up ruined rice paddies and planting them with broad-leaved trees. This year marks the tenth year for these activities, in which 50 to 60 members regularly participate.

Azuma: Is there some particular reason that these activities have continued for ten years?

Takashima: Perhaps it's that fishing people and mountain people engaged in activities together. Rather than people participating only in their own areas of specialization, fishermen thin trees in the mountains and members of the agricultural cooperative and forest owner's association collect trash from the sea.

Yoshimitsu: Observing and trying one's hand at each other's work, such as net handling at sea and tree thinning in the mountains, made the participants appreciate how arduous other professions are. Although a small first step, this eventually led to a conviction that we must not discard trash in rivers or the sea.

Collaboration Between Forest Owners and Companies

Yoshimitsu: Still, no matter how many volunteer activities people engage in, the fact remains that forest destruction outpaces conservation efforts. Since mountain forests aren't being properly maintained, undergrowth isn't growing, and the topsoil is being rapidly washed away. The forest topsoil contains leaf mold, and when that disappears, a mountain unavoidably shrinks from erosion. It's a vicious cycle. A major cause of this is low timber prices. The financial situation for forest owners has become harsh, and we can no longer urge them to grow trees or manage mountain forests.

Azuma: Isn't the declining number of people who perform forest maintenance another cause of forest destruction?

Yoshimitsu: To be sure, the number is decreasing, and we are keenly aware that a prompt response is necessary to ensure skills succession.

Takashima: Are there any companies within the prefecture that use wood as biomass fuel?

Yoshimitsu: I think that there is only one company where wood is used for combustion together with coal and other fuels.

Azuma: From the perspective of companies, inability to obtain a stable supply of biomass is a problem. I suppose that some companies would install mixed combustion facilities if they could obtain a stable supply, as is the case with waste tires.

Yoshimitsu: In addition to that, it costs money to process thinned wood into chips and pellets.

Tsunoda: It may be necessary to first collaborate with companies to calculate what sort of system would be viable, and at what cost. Since there are companies located near forest

[Outside Participants]

1. **Ms. Kimie Tsunoda**
   Steering Committee of the Valdez Society
2. **Mr. Akifumi Ueda**
   Representative Citizens' Science Initiative Japan
3. **Mr. Shigeaki Yoshimitsu**
   Counselor of Yamaguchi Chuo Forest Owner's Association

[Participants from Kyowa Hakko Kirin Group]

4. **Yoichi Tanaka**
   General Manager
   Administration Department
   Kyowa Hakko Bio Yamaguchi Production Center
5. **Noriyuki Takashima**
   Senior Manager
   Environment and Safety
   Kyowa Hakko Bio Yamaguchi Production Center Ube
6. **Kouichi Asou**
   Senior Manager
   Environment and Safety
   Kyowa Hakko Bio Yamaguchi Production Center Hofu
7. **Masaki Azuma**
   Director
   Corporate Quality Assurance, Environment and Safety Department Kyowa Hakko Kirin

land that install combustion facilities, I think the situation is changing little by little.

Ueda: There is a case study involving farmland that I found interesting. A company that owns condominiums and an NPO collaboratively planned and implemented a project in which residents of condominiums built near abandoned farmland work together to once again bring the land under cultivation. I hear that the opportunity to participate together brings condominium residents closer to each other. The happy result is that the participants look forward to outings together, and land reclamation proceeds rapidly.

Tanaka: That creates added value, doesn't it?

Ueda: Even if a company acquires forestland and devises a means of land utilization, I think there's a limit to what a single company can accomplish. Wouldn't it be better if several companies, NPOs, or other organizations joined together? Also, isn't some sort of support from the central government necessary for forest management and personnel development?

Tsunoda: I think that interaction among companies and organizations is a way to get things done fast, since there are things that can be accomplished through agreement among these institutions alone. Then, if an NGO that engages in conservation activities joins in and a framework for participation together with the local forest owner's association can be put in place, activities on an even larger scale may be possible.

Proposal for a Forest Club

Yoshimitsu: In our river basin area, we have something called community forest volunteers, people who engage in activities to manage mountains themselves. These volunteers, former Kyowa Hakko Bio employees among them, engage in ongoing forest management activities. Although the forest owner's association also maintains organized work crews, we feel the need to manage the mountains on a larger scale on an ongoing basis.

Tsunoda: I have heard that in Shikoku a company has formed a forest club. It seems that some company employees who have family or relatives among members of the forest owner's association began going to the forest to trim trees on their days off, and the activity reached the point of formation of a club. Since the use of such intermediaries entails benefits such as the facilitation of corporate participation in forest conservation activities and opportunities for forest owner's association members to interact with companies on a regular basis, it no doubt enables both sides to expand the scope of their activities. As a first step, why not form an organization like a forest club within the Kyowa Hakko Kirin Group?

Tanaka: Expansion of initiatives such as the one mentioned by Mr. Yoshimitsu through former employees who already engage in activities such as forest conservation might be effective if Kyowa Hakko Kirin can obtain information from former employees in various areas of Japan.

Ueda: I think that now it is possible for companies to found NPOs and organize people to support forest conservation rather than act independently. Since the Kyowa Hakko Kirin Group's business is biotechnology, one idea of possible interest would be to set forth a vision for the future regarding the utilization of wood chips. The importance of forests is recognized from the perspective of water resources as well. I think that the public response will be tremendous if Kyowa Hakko Kirin, in its interaction with various stakeholders, considers its corporate activities and the future of forests together and embarks on a course of developing forward-looking projects.

Tsunoda: I think that if Kyowa Hakko Kirin can cooperate with companies in river basin areas and involve universities, schools, and other learning centers, it should be able to find ways of greatly expanding its activities. Forest management and bio-fuels contribute to the conservation of forests and the prevention of Seto Inland Sea pollution. If people can view this kind of natural circulation from a scientific perspective, they will more readily understand the expansion of company-led activities.

Asou: For instance, I think that the availability of a mechanism for expressing forest conservation activities on a CO_2 equivalent basis developed through collaboration among companies, universities and government would make possible discussion and facilitate activities at the Ube Network for Climate Change Actions, an organization in which many companies, a university and a community forest association participate. A scientific explanation that expression of forest volunteer activities on a CO_2 equivalent basis has a corresponding impact on cash flow would be persuasive.

Azuma: I think that if there were a framework in Japan that permitted counting forest management activities as CO_2 offsets and recording them in environmental reports, this would become a major impetus for activities to protect forests at business sites.

Third-party Assessment (Viewpoint)

Itaru Yasui, Ph.D.
Professor Emeritus, The University of Tokyo
Vice Rector Emeritus, United Nations University

An expert in materials chemistry, Dr. Itaru Yasui has been implementing major environmental research projects for the past 15 years and is an important opinion leader in this area. He is concerned that there have been no comprehensive environmental research projects to meet today's need for research data based on intelligent insights. In line with his view that appropriate policy decisions must be based on a comprehensive viewpoint, he is currently implementing his own Internet-based campaign asking people to consider the extent to which an individual can achieve comprehensiveness.

http://www.yasuienv.net
(Japanese only)

When I chat with people from the media or NPOs, I'm surprised at how many feel that the state of the environment is worsening year by year. I mention that the current state of health of the Japanese people is without question at an all-time high and that this pinnacle may never be reached again. I explain about the history of environmental improvement since around 1970, about problems such as waste, dioxin and environmental hormones, and about the future environmental impact of climate change. Hearing this, people appear momentarily puzzled, but after a time the meaning dawns on them.

An image that the chemical industry and transportation are the main causes of pollution remains firmly entrenched among middle-aged and older people. Also, it seems likely that this image is prevalent among young people because they use what they learn in junior and senior high school social studies as their only judgment criterion. In fact, we have reached the point where chemical companies have already made what efforts they can to improve the natural environment.

That a shift in focus from pollution to other environmental activities has occurred is indicated by the topic taken up in this year's stakeholder meeting: what companies can do with regard to the interaction among forests, rivers and the sea. However, the general public has no opportunity to obtain knowledge about current developments that will change attitudes formed from memories of the past. For this reason, changes for the better do not become common knowledge throughout society, and people make judgments based on conventional stereotypes. This is regrettable.

However, it's pointless to complain. It seems to me the only course of action is to persevere in our efforts without making a fuss. It is my hope that Kyowa Hakko Kirin will continue to communicate the current state of its environmental activities in an easy-to-understand manner in this report. At the same time, the company should actively seek change on the part of the national government and other entities. Reducing carbon dioxide, a cause of climate change, is a difficult undertaking. The best countermeasures will likely involve the effective utilization of carbon dioxide as a raw material.

A graph on Page 28 of this year's report indicates that carbon dioxide generated in the combustion of 180,000 kiloliters of fossil fuel is used as a raw material in the oxo process, a method of increasing the length of one carbon chain in a CO_2 molecule, resulting in a reduction of 120,000 tons in emissions. With regard to products, the oxo process is used to synthesize fatty acids such as isononanoic acid, which is used as lubricant oil for freezers that use the chlorofluorocarbon substitutes mentioned on page 22.

I believe that this is truly the best means of utilizing CO_2. However, it appears to me that the carbon dioxide effectively utilized in this way has not been subtracted from the emissions performance figures. Could it be that this CO_2 utilization method wasn't considered when the law was made? I would like to see the company actively lobby the government in this regard.

Sustainability Report 2009
Third-Party Verification—Written Opinion

September 11, 2009

レスポンシブル・ケア

Dr. Yuzuru Matsuda
President and Chief Executive Officer
Kyowa Hakko Kirin Co., Ltd.

Akio Yamamoto
Chairman, Verification Advisory Committee

Saburo Nakata
Chief Director, Responsible Care Verification Center

●Objectives of Verification

This Responsible Care Report Verification refers to Sustainability Report 2009, which was prepared by Kyowa Hakko Kirin Co., Ltd. (hereafter the 'report"). It expresses the opinion of the Responsible Care Verification Center as a chemical industry specialist on the following matters.

1) The reasonableness of methods used to calculate and aggregate performance indicators (numerical data) and the accuracy of numerical data
2) The accuracy of non-numerical information in the report
3) Details of Responsible Care activities
4) Characteristics of the report

●Verification Procedures

- At the corporate level: The reasonableness of the method used to aggregate performance indicators reported from each site (office, plant) and the accuracy of non-numerical information in the report were examined. The examination entailed interviewing those responsible for operations and preparation of the report and obtaining documents and explanations thereof from them.
- At the site level: The reasonableness of the methods used to calculate the numerical data reported to the head office, the accuracy of the numerical data, and the accuracy of non-numerical information in the report were examined. The site examination entailed interviewing those responsible for operations and preparation of the report, obtaining documents and explanations of those documents, and crosschecking against evidential documents and materials.
- Numerical data and information in the report were verified by sampling.

●Opinion

1) The reasonableness of methods used to calculate and aggregate performance indicators (numerical data) and the accuracy of numerical data
- Numerical data were calculated and aggregated reasonably by the head office and the Takasaki Plant.
- Performance indicators were calculated and aggregated accurately across the scope of the survey.
- Room for partial improvement in the aggregation method used at the Takasaki plant was pointed out, and the method was adjusted for the present report.

2) Accuracy of the information in the report
- The accuracy of the information in the report was confirmed.
- Although the existence of issues with the appropriateness of expressions or ease of understanding was pointed out at the draft stage, these have been corrected in the present report.

3) Details of Responsible Care activities
- We were impressed that Kyowa Hakko Kirin has made steady group-wide improvements in CO_2 emissions, atmospheric emissions of chemical substances, water pollution prevention measures, industrial waste final disposal volume and waste recycling volume in Eco-project activities continuously implemented since 1998.
- We were impressed that Kyowa Hakko Kirin has obtained ISO 14001 combined certification at eight business sites.
- We were impressed that the Takasaki Plant has achieved an ongoing record of zero accidents resulting in lost work time for 20 years since 1989.
- We were impressed that the forest conservation activities begun by Kirin Brewery in 1999 are activities that recognize that water is an important environmental issue and are being continued at the Kyowa Hakko Kirin Takasaki Plant and Fuji Plant.
- We were impressed that the laboratories and the Fuji Plant have for many years conducted science experiment classes at elementary schools and junior high schools.

4) Characteristics of the report
- This is the second report issued by the Kyowa Hakko Kirin Group, and reporting on CSR activities has been enhanced.
- A Management Commitment section is included at the beginning of the report, which indicates that executive management takes the initiative in the implementation of CSR activities. A stakeholder meeting is held each year, and the opinions of host community residents are reflected in improvement in CSR activities.