

It has been long since people started saying that it is the era of repletion and people are spoiled with abundant material. Streets are filled with gourmet restaurants and you can buy any kind of local cuisines and specialties at the food section of department stores. Reflecting this trend, many long-life TV programs deal with gourmet, travel and cooking. As eating habits of Japanese people is diversified, more Japanese are suffered from obesity year by year. Many people are trying to cut down weight by changing their diet, going to fitness club and attending fasting program.

While Japanese food consumption increases and our diet gets more westernized, the food self-sufficiency ratio of Japan keeps dropping. Lately, it finally marked below 30%. This is the figure that includes the starch for livestock. Japanese people are provided about 2600 kilocalories of food per person a day. About 40% of foods are made in Japan. However, the average calorie consumption of Japanese people is only about 2000 kilocalories. The difference comes from, for example, the disposal of food that had passed the expiration date at supermarket and convenience stores, leftover food of households and restaurant and waste of food processing factories. The amount totaled becomes about 30% of calories provided. What a waste! If we employed a little old style of eating habit that is to mainly consume starch, the consumption of starch for livestock would decrease and the amount of food import would be slashed into a half. However, it must be very difficult to reverse the trend of our eating habit. Japanese people's diet and the food environment are becoming very complicated and somewhat mysterious.

- Top page of the food self-sufficiency ratio information provided by the Ministry of Agriculture, Forestry and Fisheries of Japan  
<http://www.kanbou.maff.go.jp/www/anpo/sub6/sub6.htm>
- The self-sufficiency ratio of rice and vegetables in Japan  
[http://www.gohan.gr.jp/Q\\_A/01\\_menu/02.html](http://www.gohan.gr.jp/Q_A/01_menu/02.html)
- Fasting remedy program  
<http://www.nishikai.net/japan/ryouhou/danjiki.html>
- Fasting diary of Yoshiko Aoki  
<http://www.pot.co.jp/danjikinikki/index.html>

Issue is how to utilize the wasted food. Biomass is recyclable organic waste including disposed food and livestock excrement. Biomass can be used as fertilizer, fuel, biodegradable plastic, bio-battery and for many other purposes. At the same time, there are many points that Biomass need to clear. The Ministry of Agriculture, Forestry and Fisheries established a "Biomass Japan plan" to promote the utilization of biomass. In addition, a private sector started paying more attention to biomass and some NPOs have launched various biomass promotion program.

- The Ministry of Agriculture, Forestry and Fisheries, “Biomass Japan plan”  
<http://www.maff.go.jp/biomass/index.htm>
- An NPO focusing on biomass program  
<http://www2u.biglobe.ne.jp/~poema/>
- Biomass energy mailing list  
<http://www.biomassml.com/home.html>

To reduce the amount of food disposed from households, people should complete ordinary things in the everyday life, for example, allowing no leftover of food or using up all the raw material that was purchased. In reality, “ordinary” type of things are very hard to be maintained and do not receive high recognition. Mr. Hidesaburo Kagiya, who is famous as “cleaning guru”, always repeats the word, “Bonji Tettei” in his speech. Bonji Tettei means that if you continuously work on something ordinary, the result will be something extraordinary. As a chairman of “The Committee to make Japan clean”, Mr. Kagiya has been telling people to purify their mind by cleaning lavatory. His committee “How to learn something from cleaning activity committee”, are located nationwide in Japan.

- Bonji-Tettei; speech by Mr. Hidesaburo Kagiya  
<http://www.itsuji.co.jp/mandara/sm/kagiya4.htm>
- Speech performed at the conference on the Brazilian method of cleaning  
<http://www.itsuji.co.jp/mandara/sm/kagiya2.htm>

To prevent electro-magnetic radiation is like preventing the leakage from a bucket with holes. Unless all the holes are covered, it leaks. In addition, each hole has to be repaired in the most suitable way considering its size and configuration. As for EMI control, it is impossible to maintain EMI to zero. Therefore, the area that shows high EMI level should be treated first to keep the EMI level under the regulated value. Actually, there are many cases that after the containment of EMI of one area, unexpected area starts demonstrating an unacceptable level. The EMI control is not simple at all. There would be somebody who would wish for a magic amulet that eliminates all EMI problems only by attaching to a product.

An article of magazine introduced a print board for video projector that was designed strictly complying with the basic EMC design rule. This print board cleared the VCCI standard without plating and applying shield coating to the case. As this print board case shows, it is Bonji Tettei, completing “ordinary things”, to design following regulations from very initial stages. This is the ironbound rule for EMC design. If EMI can be contained at the beginning, the time spent on the noise control for the production level assembly can be drastically saved.

Then, what should be regarded as ‘ordinary things’ for EMI? It could be so many factors such as the selection of parts, allocation of board, and board pattern. Depending on product group and usage, frequency and consumed voltage can be different, so each group requires special attention. To do “ordinary things” for EMC design, various training programs are necessary. Therefore it is not easy to nature a designer with good sense of EMC in a short period of time.

Focusing on the issue, companies are providing more solution packages that make it easier to comply with regulation. The target of such solution includes the design of print board with low EMI level, selection of parts

and product assembly that satisfy the regulation at the end. The solution is welcomed among the companies that want to reduce product developing time and the companies that find high-frequency control and noise management very troublesome.

- Solution for EMC design and high-frequency printboard design

<http://www.renesas.com/jpn/edge/viewson02.html>

<http://www.mee.co.jp/service/e-board/simulation.html>

<http://www.automation.fujitsu.com/products/products113.html>

[http://www.tecstar.macnica.co.jp/solution/solution\\_homepage.html](http://www.tecstar.macnica.co.jp/solution/solution_homepage.html)



A monument that reads as, "Bonji Tettei"



Biomass power plant



Nobuhiko Tsunefuka

1943 Born in Tokyo

1968 Graduated from Department of Engineering Science, Osaka University

~ 1984 Worked on developing Information Technology Device at Taga Works, Hitachi, Ltd.

1991 ~ Engaged in education on EMC related matters at Hitachi Institute of Technology

1999 ~ Planning Manager