

## My Lecture at Today's Symposium (今天的课)

TATEDA Masafumi, Ph.D.  
Toyama Prefectural University

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## Today's contents (今天的内容)

- **Introduction (10min.)**  
(开场白 10分)
- **What are environmental issues? (20min.)**  
(什么是环境问题? 20分)
- **What is important in waste management and what we can do now? (30min.)**  
(处理垃圾时最重要的是什么? 我们马上可以做什么? 30分)
- **What is waste? (30min.)**  
(什么是垃圾? 30分)

### Introduction

**What kind of place is Toyama?** (富山是一个怎样的地方?)



**Population(人口): approx. 1,120,000 people**

### Introduction

## Toyama is not Fujisan!

(富山和富士山没有关系哟!)

**富山 (Toyama) is a place but**

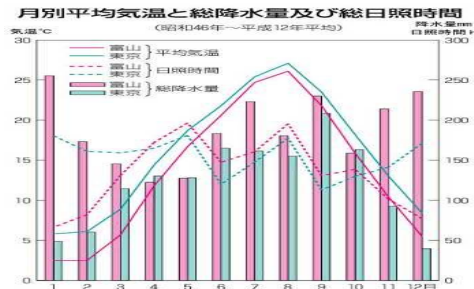
**富士山 (Fujisan) is a mountain!**



(富山是地名, 富士山是座山!)

### Introduction

## Average temperature by month



### Introduction

## Toyama has lots of nature.



Japan Alps

**Introduction**

**Toyama has lots of nature.**



**Paddy Fields**

**Introduction**

**Toyama has lots of nature.**



**Toyama Bay**



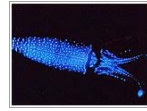
**Snow Grouse**



**Japanese Serow**



**Yellowtail**



**Firefly Squid**



**Tulip**

**Introduction**

**What Kind of university is Toyama Prefectural University?** (富山县立大学是所怎样的大学?)



**Introduction**

**Study Areas** (专业分科)



**Total Number of Students: approx. 1,000 students**  
(学生人数: 大约 1000 名)

**Introduction**

**What am I?** (我是谁?)

**I am an associate professor of Toyama Prefectural University.** (富山县立大学副教授)

**My major is waste management technology.** (专业是废弃物处理工学)

**My concentration is to develop recycling technology of waste.** (在开发废弃物再利用技术)

**Introduction**

**My Laboratory** (我的研究室)



**Herb Plantation**  
(香草药草的栽培)



**Students in my lab.**  
(研究组的学生)

## What are environmental issues?

(什么是环境问题?)

**What kinds of environmental issues do you know?**  
(知道哪些环境问题呢?)

**Let me know!** (告诉我!)



**What are environmental issues?**

**Global Warming** (地球温暖化)

**Problems on Waste** (垃圾问题)

**Water Pollution** (水质污染)

**Air Pollution** (大气污染)

**Deforestation** (森林破坏)

**Population Expansion** (人口增加)

**Desertification** (沙漠化)

**Destruction of O<sub>3</sub> layer** (臭氧层的破坏)

**and so on.** (等等...)

**What are environmental issues?**

**There are fundamental environmental issues which we should not forget about.**  
(有我们一定不能忽视的环境问题)

**Many people are dying everyday because of starvation, 8 million people are in malnutrition.**  
(有很多人因没有食物而死亡。全球大约有 8 亿人患营养失调症)

**Approx. 14,000-30,000 people are dying everyday because of diseases related to water.**  
(每天大约有 3 万人因与水相关的疾病而死亡)

**What are environmental issues?**

**There are fundamental environmental issues which we should not forget about.**  
(有我们一定不能忽视的环境问题)

**Some millions of people are dying every year from easily curable diseases because of no treatment.**  
(每年有数百万人因患简单的疾病但却得不到治疗而死亡)

**One sixth of world adult population are illiterate.**  
(全球有 6 分之 1 的成年人不会读书写字)

**What are environmental issues?**

**There are fundamental environmental issues which we should not forget about.**  
(有我们一定不能忽视的环境问题)

**Women are not be allowed to study. Two third of population in illiteracy are women.**  
(女性得不到学习的机会。有 3 分之 2 的女性不会读书写字)

**Women activity are severely limited.**  
(女性的行动受到极大的限制)

**Many people are still in any kinds of conflicts.**  
(还有很多人正在遭遇战争)

**What are environmental issues?**



<http://www.3kco.uk/1/ow/world/sir/a/32542.stm>



<http://www.unicef.or.jp/siryo/sakabhm>



<http://www.unicef.or.jp/siryo/sakabhm>



<http://www.unicef.or.jp/siryo/sakabhm>

**What are environmental issues?**

**Do not jump to Global Warming, O<sub>3</sub> Layer Depletion, Desertification, and so on if you are asked about environmental issues.**  
(说到环境问题不能马上想到地球温暖化问题)

**We should always remember those fundamental environmental issues, then talk about Global Warming, and so on.**  
(应该经常意识到最基本的环境问题)

**What is important in waste management and what we can do now?**

(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Waste Generation (垃圾排放量)**

Town (城市)	Population (人口)	Waste treatment, t/day (每天的垃圾处理量ton)
Dalian (大连市)	5,572,712	1,740
Guangzhou(广州市)	6,122,016	4,235
Shanghai(上海市)	12,950,000	13,904

**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Suppose,**

**Waste treatment/day = Waste generation/day.**

**what is  
Waste generation/day/person in  
each city?**

(如果一天的处理量和一天的排放量一致的话, 每个城市一天的垃圾排放量是多少?)

**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

Town (城市)	Population (人口)	Waste generation, ton/day (每天的垃圾处理量ton)
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**Let's calculate!!** (算一下吧!)

**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

$$\text{Waste generation (Kg/day/person)} = \frac{\text{Waste generation (Kg/day)}}{\text{Population (persons)}}$$

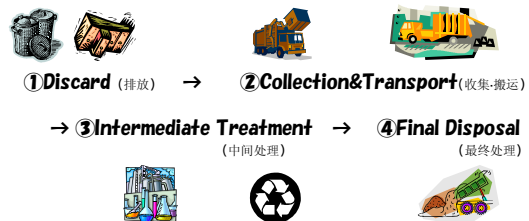
$$\text{Dalian (大连市)} = \frac{1,740,000 \text{ (Kg/day)}}{5,572,712 \text{ (persons)}} = 0.33 \text{ (Kg/day/person)}$$

$$\text{Guangzhou(广州市)} = 0.69 \text{ (Kg/day/person)}$$

$$\text{Shanghai(上海市)} = 1.07 \text{ (Kg/day/person)}$$

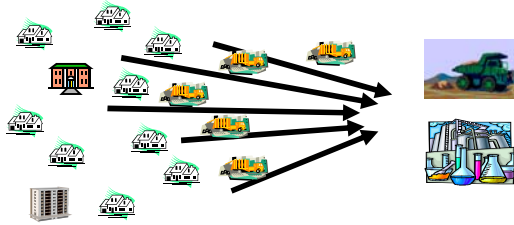
**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Waste Management Flow (废弃物处理的过程)**



**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Importance of Collection&Transport**  
(收集和搬运的重要性)



**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**We must bring waste to one place in order to treat waste!** (为了将垃圾进行处理, 需要将垃圾集中在一个地方)

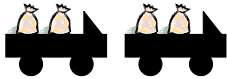
**Effective transport of waste is essential.** (高效率地搬运垃圾十分重要)

**What is "effective transport"?** (高效率地搬运垃圾是怎样一回事?)

**Reduce volume of waste, that is, remove air from waste.** (是减少垃圾体积, 也就是将垃圾中的空气排除)

**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Without crushing cans, we need 2 trucks.**  
(不经处理地收集而直接搬运铁罐的话, 需要 2 台卡车)



**With crushing cans, we need just 1 truck.**  
(将铁罐压扁的话, 只需要 1 台卡车)



**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**What happen if we use 2 trucks instead of 1 truck?** (增加 1 台卡车来进行运输的话, 会有什么样的结果呢?)

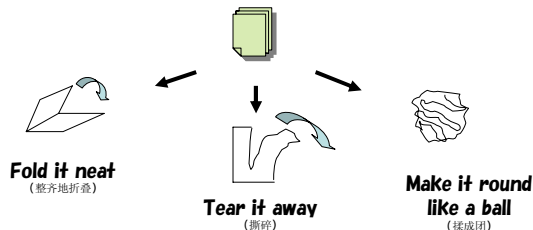
- To consume more gas. (需要消费很多燃料)
- To cause more air pollution by exhaust gas. (会排放更多的尾气给大气造成更大的污染)
- To give more damage to roads. (增加对道路的负担)
- To make more noise. (增加噪音)
- To increase labor cost. (需要多支付工人的工资)
- To produce more risk of traffic accident. (增加交通事故的发生几率)

and so on.

**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Let's try!** (试试吧!)

**Discard papers by three ways.** (用三种方法来排放废纸)



**What is important in waste management and what we can do now?**  
(处理垃圾时最重要的是什么? 我们马上可以做什么?)

**Which way of discard gave the largest volume of waste?**  
(采取哪种方法废纸的体积最大?)



**To remove air from waste is very important for effective transport.**

(为了高效率地搬运垃圾, 将垃圾中的空气排除很重要).

**What is waste?** (什么是垃圾?)

**Waste is something you don't need.**

 **Your friend's bicycle is very shabby, but your friend likes it very much.** (朋友的自行车已经很破了, 但是朋友却非常喜欢它) **Not a Waste**

 **Your grandpa gave you a new Game Boy, but you came not to like and need it soon because you could never win.** (爷爷给我买了家庭电子游戏机, 我根本赢不了它, 厌烦了就想扔掉。) **A Waste**

 **I bought the cake in the fridge 1 week ago, but I am going to eat because I am too hungry.** (饿死了, 准备将一周前买的蛋糕吃掉) **Not a Waste**

 **Tom gave me Sushi, but I cannot eat it because I just ate too much dinner.** (汤姆给了我寿司, 刚刚吃过晚饭, 吃不下寿司) **A Waste**

**What is waste?** (什么是垃圾?)

**Something becomes a waste or not totally depends on your interest, feeling, and thinking.** (一件东西是否变成垃圾, 取决于本人的兴趣、感情以及想法)


**It does not fully depend on physical and chemical changes in material quality.** (不只是因为这件东西本质上产生了物理性或化学性的变化而成为垃圾)

**Somebody may need your waste. Your waste may not be other's waste, and vice versa.** (也许有人正需要你准备扔掉的垃圾。你要扔掉的垃圾对别人来说也许不是垃圾。反过来也一样)

➔ **Therefore, recycling of waste is important for our earth.** (所以对我们的地球来说废弃物再利用很重要)

**What is waste?** (什么是垃圾?)


**You don't need it and either anybody else does.** (谁都不需要了)


 **Kitchen waste** (厨房垃圾)

 **You discard it as waste.** (作为垃圾扔掉)

**Waste management** (进行垃圾处理)

**What is waste?** (什么是垃圾?)

 **Kitchen waste**

 **You discard it as waste.** (作为垃圾扔掉)

 **Waste management** (进行垃圾处理)

**Microorganisms in soil like and need your kitchen waste!! Don't discard it!!** (土壤中的微生物正需要你的垃圾呢。别扔!)

**What is waste?** (什么是垃圾?)

**Please give me more nutrients. Microbes.** (微生物先生, 请再给我一点营养!) **Kitchen waste**

**We are also very hungry.** (我们也很饿肚子呢!)

**I am getting better, thanks.** (饿饿好起来了)

**Yahool! We have foods now!!** (呀! 吃的东西来了!)

**We are very well and have many friends now!!** (变得健康, 好朋友也多了起来!)

**I am happy, too!** (我也很开心!)

**We can give you more nutrients now!** (从现在开始我们要多起来哟!)

**We are happy!** (真幸福啊!)

**What is waste?** (什么是垃圾?)

**Let's recycle your waste!!** (将垃圾进行废弃物再利用吧!)

**Your waste may not waste for others!** (你的垃圾也许不是垃圾!)

**Somebody or microorganisms may need your waste!** (对别人来说正是想要的东西!)

**Waste is resource!** (垃圾是资源!)

**Thank you for your attention!**

**[tateda@pu-toyama.ac.jp](mailto:tateda@pu-toyama.ac.jp)**

