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Sustainable Community in the Information Age: The way Japan should go

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1. Sustainable Community

The term sustainable development came of age at the conference on environment and development held in Norway in 1987. The term became widely accepted at the Earth Summit held five years later in Rio de Janeiro, where it was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Besides touching on the issue of sustainability, I examined the idea of human communities. One of the vices of current culture is how it has served to sever ties between people, isolating them from their communities and dislocating them from their histories. Another way of approaching what this means is that long-term importance and value were sacrificed to short-term economic profit. This is especially true of the United States and Japan. The culture of materialism has caused crises in the global environment. Left as it is, we cannot avoid a situation in which atmospheric CO₂ levels increase exponentially, causing global warming and a resultant rise in the sea level. Or consider a situation in which China becomes as affluent as the United States. With a car in every Chinese home, our planet's petroleum resources will likely be spent in a few short years. Clearly economic development as we have had in the past is impossible; we will not be able to sustain past levels of economic growth. Countries like Japan and some others in Asia where the forces of modernization were particularly quick to take hold also saw rapid centralization of power and resources. This centralization has resulted in concentration of population. The population of Japan is about 120 million, of which about 30 million live in the Tokyo metropolitan area. Outside Tokyo, population tends toward regional centers and away from the outlying areas. The impoverishment of rural communities located in what are called the

inter-mountain zones makes it difficult to believe that they are located in the same country as the rich urban centers.

Youths gather in urban fantasy zones in search of freedom and glamour. This exodus away from the rural areas has created a situation whereby cities exceeding 10 million population have sprung up all over Asia. These cities are the sources of slums, pollution, traffic jams, and crime. These cities are not places that offer people quality of life. They do not offer places suitable for human lifestyles. It is difficult to foresee concrete high-rise cities surviving one hundred, one thousand years from now. There are too many problems to be overcome; how do you secure water, provide food and energy, get rid of waste, or establish a sense of the community, all of which are vital to sustain these cities?

The history of humankind has always been characterized by the search for quality of life. The information society of the next century must be such that provides us with this quality of life. To realize this, we must build sustainable communities. Ingrained here is the idea that we must build "strong communities" and that we must pursue sustainability of towns and villages. By strong communities, we mean placing emphasis on the relationship between people and creating a sense of community belonging. We mean the establishment of a feeling of friendship among people, a feeling that plays such a vital role in the healthy running of a truly democratic system. To ensure that such communities are sustained, we must carefully reexamine our attitudes toward development and our pursuit of efficiency over all other virtues, which have caused the hyper densities of the present cityscape. Our pursuit must be focused on sustaining the livable environment around us and on building strong communities that become the bases of our social system. We must build a new framework that encompasses both the software and hardware aspects of our society.

The next century will be the century of information. It may throw new light on how we live, leading to changes in our lifestyles. It will strengthen communication between people and may result in the birth of new communities. Information may become a tool that will allow us to rediscover the sense of human community that we have lost.

Japan, whose growth in the 20th century can be described as miraculous, is at a turning point both socially and economically. Japan became its current self by abandoning traditional values and denying past practices. What we are now coming to realize is that many aspects of our traditional ways of thinking that we have abandoned are superior to what we believe now and that they allow us better insight into our fundamental sense of value. We believed before that spirits permeated everything around us, and among the "things around us" were people. The concept of sustainability is a direct descendant of this way of thinking.

We are currently examining how to reconcile the building of sustainable communities in

Japan with the age of information societies. As American urban planner Peter Calthrop notes, we must build communities socially progressive, economically feasible, and ecologically sound in the coming information age.

Sustainable communities are in the future. They were also a part of the Japanese people in the past. They are not difficult to achieve. All we need to do is to go back to the future, turn the clock back about 130 years and into the Edo period of Japanese history. The values of the Edo period were alive in the Japanese psyche as late as 30 years ago.

2. The Edo Period as a Manifestation of the Sustainable Community

The approximately two-and-a-half centuries from the early 17th to the mid-19th centuries in Japan are referred to as the Edo period. Japan during these years was marked by its isolationist policy. The country prohibited trade with every other country except Holland and China, and limited its outpost of trade to Nagasaki, located on the far western tip of the Japanese archipelago. The isolationist policy enabled Japan to shut out all sources of potential disorder outside its borders and establish an economy founded on a level of peace and prosperity. The resultant system of economic production combined capital conservation with labor intensity. Land productivity during this time was the highest in the world, which enabled Japan to build a self-sustainable economy within its shores. Toru Hayami has made references to this system and has concluded that while Europe underwent the Industrial Revolution, Japan underwent an Industrious Revolution. Although GDP did not grow significantly during these years, Japan did benefit greatly from a stable economy.

Living standards in Japan during the Edo period were not low. Susan Harley, in her comparative study of Japan during the Edo period, concluded that, given a choice of where to live in 1850, she would have chosen England if she was rich and Japan if she was of the working class.

Japan at this time benefited from a fairly remarkable system of energy, water and waste. The central government then, when compared with the present bureaucratic jumble, was small and cheap (average tax burden was estimated at about 20%), and there was a fair degree of regional autonomy. Edo, Osaka, and Kyoto were the three major urban centers, but even outside these cities flourished distinct regional cultures. The ruling samurai class were financially strained, and day-to-day community affairs were placed in the hands of self-governing councils. Matters of security were charged to neighborhood groups, which took responsibility for ensuring the safety of their abodes. Communities were sustained to a large extent by the volunteer spirit of its residents.

Japan is among the most heavily forested countries in the world. Even now, two-thirds of the country are forest. Population during the Edo period was approximately 30 million, which is one-fourth the present population. Annual increase in per capita forest mass during this time was about 10.5 tons, which produces about 42 million kcal of heat equivalent. This is about the same amount as the 40 million kcal in heat that the Japanese people use either directly or indirectly in a year. When we consider that the heat requirement of people in the Edo period was less than one one-hundredth the present requirement, we can see that annual increases in forest mass were easily capable of satisfying the heating requirements of people during the Edo period.

Human labor provided most of the power necessary to grow rice, which was the staple diet of the Japanese people. The source of power for human labor is of course food. We can conclude from this that energy from the sun was enough to keep the country moving.

Time was not divided into strict, even divisions. Sunrise was defined as six o'clock in the morning while sunset was defined as six o'clock in the evening. Each period of day and night was divided into six "hours" to tell apart time. The logical corollary of this system is that the length of days and nights was not constant. The lifestyle rhythm then was tied in with the movement of the sun. This contrasts with today, where even summer time is a concept alien in Japan. The Japanese people lived more practical and natural lifestyles during the Edo period.

In the early 19th century, the population of London was 900,000 and that of Paris was 500,000. The population of Tokyo, or Edo as it was called then, was 1,200,000. Edo, by the 18th century, benefited from aqueducts that reached a total length of 110 km. The seas and rivers of Edo were extremely clean. Sumida River was home to many species of freshwater fish, and fish from the Bay of Tokyo became the sources of sushi. Environmental specialists of today are astounded by the cleanliness of the sea shores and river banks depicted in Edo wood-block prints. The clean waters were maintained because almost all human refuse and waste were transported to the surrounding areas to be used as fertilizer. This prevented any urban waste from being dumped into the water. This contrasts with Paris about the same time, where the Seine was the destination of all urban waste, creating often unbearable odor and acting as a breeding ground for disease.

The traditional system of belief in Japan was largely animistic, which is a belief that spirits reside in everything. This made frugality a virtue, and almost everything was recycled. Those that could no longer be recycled were buried.

The present population of Tokyo is about 12 million. The Metropolitan Government, under central government control, is responsible for the day-to-day management of this area. Including police, Tokyo Metropolitan Government staff number 200,000, meaning that one in every 50 citizen works for the Metropolitan Government.

During the 18th century, magistrates were charged with police and judicial functions as well as other administrative duties. There were two magistrate's offices in Edo located to the north and to the south, which together were charged with much the same responsibilities as the present Metropolitan Government. At each magistrate's office were employed 50 "sergeants" and 240 "constables." For a city of one million, that makes 580 administrative officers altogether, meaning that each officer was responsible for the welfare of 1,724 ordinary citizens. The government then was much more efficient.

Governors were sent to those areas directly controlled by the Tokugawa government. To administer an area equivalent to about 50 to 100 thousand koku (one koku =3D slightly over five US bushels) in rice production, however, the Tokugawa Shogunate sent only two governors. Considering that a feudal lord controlling an equivalent area would preside over 300 to 500 vassals, we can imagine the efficiency of administration. The governors administered their district by hiring people who lived in it.

This system of government was nonetheless able to maintain order at much the same level as the present. This was due to a system of self-governing councils in place. In Edo, citizens were represented by three councilors, whose posts were passed down within their families. They acted as de facto governors in charge of making public announcements, maintaining census, controlling trade and crafts, conducting arbitration, and organizing surveys. Under these councilors were the "mayors" of the different boroughs, and under them were the neighborhood leaders, who acted very much as a landlord of an apartment block would act now. There were approximately 20,000 neighborhood leaders in Edo charged with bringing the community together and maintaining order. They did all this without pay.

Because houses in Japan were made of wood, cities were vulnerable to fire. Edo was no exception. During the Edo period, fire fighting forces were organized by community. Those involved with construction were organized as fire fighters. They acted as private police, militia, liaison, and guard for a community. The interesting thing is that these people were also the same people who, in ordinary society, were most likely to gravitate toward the more unsavory aspects of society. The genius of Edo society was the way they were able to incorporate such potential troublemakers into their system, where they acted as volunteers in charge of work that often involved risk of life.

The Edo period also saw the flourishing of a system of private schools for ordinary people. Each feudal fief also established institutes of higher learning. As of the end of the Edo period, these private schools numbered 1,500 in Edo and over 15,000 nationwide. Edo circa 1850 saw over 70% of its populace educated. This compares with a similar estimate made for large English cities in 1837, where the figure was 20%. The figure for the lower classes was worse. The

percentage of lower class people in London with an education was about 10%.

The private schools taught reading, writing, mathematics, Chinese, flower arrangement, and tea ceremony.. It was not out of the question for those who showed exceptional prowess to receive further education at those institutes of higher learning established by the feudal fiefs or by the Shogunate. Schools in Japan now are plagued by problems of in-class violence. Schools during the Edo period were institutions in which those who wished to learn did so according to their abilities. Furthermore, there were no standards hours. People learned when they could, whether it was morning or evening. The classes did not force the same curriculum onto all its students. Students learned face-to-face with their teachers. This ensured that education was comprehensive, encompassing a far greater range than what we normally categorize as academic. It was not enough for the teachers to teach the basics. Students sought out those teachers who were better mannered, more aware of the needs of particular students. What the teachers really taught were how the students could become better-rounded people. The teachers were respected in the community and contributed to establishing order in society. Education during the Edo period encompassed teachers who acted as volunteers, opening their homes as classrooms and using their own textbooks. The textbooks were not forced on the teachers from above. Rather, good textbooks spread by word of mouth and became established as standards.

Whether samurai or working class, people tended to retire at a certain age. That the work was passed down to their children had something to do with early retirement, but the result has been that people tended to devote time after retirement to things that they really wanted to do, which contributed to the flourishing of culture during the Edo period. Many times, the activities that people conducted after retirement enriched society. People became painters and poets. Others became patrons of these painters and poets. People built botanical gardens. People became professional raconteurs. Tadataka Ino in retirement surveyed a map of Japan even before European civilization made its way to the country. Retirement helped free people from their pasts, pumping into society a group of affluent volunteers.

Japan, during the Edo period, besides those regions controlled directly by the Shogunate, was divided into some 270 feudal fiefs. These fiefs enjoyed a certain amount of autonomy, each fief not only free to set its own taxes by also free to issue its own currency. This autonomy promoted the development of unique industries and allowed a better outlet for gifted people, thereby contributing to cultural growth. There was none of the situation we find now, where people must come to Tokyo to find a job and people with gifts cannot find employment in the places of their birth. Administration in the fiefs also took a two-tiered structure, self-government by the people below and feudal administration above. Local councilors, who were chosen by election, acted as go-betweens between the two-tiers of government. Important community matters were

decided at community meetings where each family had one vote. Decisions usually required a majority vote, but depending on the gravity of the matter to be decided, decisions had to be unanimous. This system probably better reflected popular concerns than the institutionalized form of mayor and city councilor setup in effect now.

The central government lacked the financial wherewithal to concern itself with minute details of community life. Cheap government forced people to practice self-governance. Taxes were spread evenly to ensure absolute fairness. Community government was entrusted to a group of about 20 people, under which were posted groups entrusted with the enforcement and practical applications of the decisions reached. Neighborhood groups placed beneath these groups were entrusted with the running of festivals and management of communal property, and provided assistance and cooperation whenever such times as a need to rebuild houses arose. In this way, communities were kept up by the representatives of the people. To borrow an American term, there were the grassroots leaders and the leaders of present-day NPOs.

3. Meiji and Post-WWII

In 1868, the Tokugawa Shogunate gave way to Imperial authority and Japan united under the banner of modernization. It sent missions to Europe and the United States and embraced the developments of the modern era. The government led the move toward the Industrial Revolution and established a system of parliamentary representation based on the German model. Governors were appointed by the central government to the regions, establishing a system of strict centralized bureaucracy. The Imperial seat was moved from Kyoto to Tokyo, its name changed from Edo. Japan, which until then clearly had two centers (Osaka and Kyoto to the west and Edo to the east), proceeded toward a path in which Tokyo will emerge as the lone political, economic, and cultural center.

Missions sent to Europe never saw that a system of regional autonomy ensured landscape beauty in England or Germany. Values held during the Edo period were abandoned in the name of economic growth, and many Shinto shrines were destroyed. The Imperial Rescript on Education forced standardized education throughout the country. The schools taught that the Emperor was a godhead and that all citizens were the subjects of the Emperor. Under this system, no regard was heeded toward people's living. The Imperialist expansion policy resulted in clashes with China and the European powers. The government became unable to control the military, and Japan entered the Second World War.

This War ended in 1945. Under American control, the social system of the Meiji was

discarded. Zaibatsu were dismantled, serfs were freed, and the "peace" constitution was adopted. Amid calls for freedom and democracy, post-Meiji values were abandoned.

The Japanese economy emerged from the ruins under bureaucratic leadership. Catching up to the United States became the keyword as Japan enjoyed its summer of high economic growth and entered the age of mass consumption. The consequences of rapid growth was soon felt in the form of mercury poisoning in Minamata Bay and pollution in other areas. "Balanced development of the Japanese landscape" touted during this era meant in effect the destruction of traditional values and the carefully wrought system of coexistence with nature and resulted in landscape covered in cement. Lost in this scramble for growth was the idea that buildings must allow a semi-permanent home for people. Japan became manufacturer to the world and one of its greatest financial centers. The Japanese sense of refinement created over-quality, over-service, and over-management. Skilled people gravitated toward the urban centers, leaving the outlying areas blighted and removed of its individualities and traditions. Youths gravitated toward the cities in search of freedom and extended families disappeared. Despite increases in GDP, the Japanese people became unable to feel quality in their life. People no longer became responsible for themselves and a form of paternalism began to prevail in which all responsibility lay with the government. Thus was established a land of the irresponsible, where the word public became synonymous with the government.

The sense of trust, which is in some ways the basis of our capital economy, took a form different from that in the United States. In Japan, there exists trust within a group and among large groups, but little trust among individuals or between individuals and groups.

4. Information Revolution, Paradigm Shifts, and Economic Collapse

Fatigue in the Japanese post-WWII system became apparent in the 1990s. The system is forced now into structural reform. The end of the Cold War. The death of unfettered growth. Aging of the population. Increased global environmental problems. Rapid changes in information and communication. What we are seeing is a shift in our social paradigm.

The hierarchies of today will give way to parity in the future. Excessively centralized government will give way to a society led by small players. Even large corporations will become a loose confederation of small corporate groups.

People will begin to identify themselves not with any one group, but multiple groups. People will come to belong to multiple regional communities, NPOs, hobby groups, and other groups that cut across traditional divisions.

Emphasis will turn from investment in facilities to investment in knowledge. What will become required is not the skills to make use of a particular piece of equipment, but a more general basis in knowledge that does not change over time.

Closed societies will give away to open societies. No longer will everything be kept a secret in companies and organizations. All information will be disclosed and all information will be shared. Human activity principles will turn away from victory and battle and competition and toward joint creation and joint ventures. Each individual will become professionals, creating new value through collaboration. People of different beliefs and skills will collaborate with each other to create values hitherto not heeded. Individual activity principles will encompass not obligation, loyalty, and subservience, but volition and passion.

The former president of Cisco System states that the age in which persons are judged by the titles they hold will give away to the Internet years. What will come to matter to an individual is not the position he holds in a particular organization, but his ability to create a network around him. And with the coming of such a society will be born the sense of trust appropriate to the Japanese people.

5. Return of Sustainable Communities with Advances in Information Networks

If there is light at the end of the tunnel for this country, then surely this light can be found at the end of the information revolution. The shift in paradigms mentioned previously will likely cause even more changes in society.

The information revolution will make information co-proprietary, simultaneous, far-reaching, interactive, inclusive, and cheap. We will be able to choose, from the variety of information available, those that are optimal for our purposes. Advances in information technologies will transform us from being passive receptors to active transmitters. No longer will there be a need for powerful hardware—our hardware will become smaller and more mobile. SOHOs will become the next major information centers. More importance will be placed on small players and the communities that they are a part of, enhancing the sense of community belonging at each level.

Communities result only when there is communication. Unfortunately, the Achilles' heel of the Japanese people has been their inability to conduct frank, one-to-one communication. The spread of information technologies will increase opportunities for communication and add depth to the subjects of such communication. It will help us build human relationships that are based on dialogues between equal individuals. Communication is something that is conducted between individuals, not organizations. By definition, it places the individual on either side on an equal

footing. Information allows individuals an opportunity to form multifaceted and multi-layered communities.

People who jump from each of these multi-layered communities to another will seek solace in closer-knit territorial communities. People who once escaped the regional communities in the process of urbanization will come back to the same familial communities to seek psychological solace. In such communities, people are not under constant scrutiny. Individuals are not buried in a group, but are accepted as the individuals that they are. In the process of solving the problems that will confront these communities, it is hoped that the communities themselves become stronger.

Increased availability of information will create many different NPOs and small businesses. They are small players. Their values lie within themselves, while information tools will likely create an environment in which they can seek out collaboration with other groups similar to theirs. There may even be created industrial clusters through an agglomeration of such small players.

Increased information availability will improve education. In particular, technical aspects of education will be streamlined, and teachers will be able to focus on character building.

Japan at present is sidestepping the issue of energy by placing greater emphasis on nuclear power generation. It cannot, however, do this indefinitely. Sooner or later, it will reach a limit to what it can do under the present setup whether the problem is energy or waste. Conservation hinges on the availability of information. The problems cannot be solved unless the people themselves pitch in to reduce energy use and waste.

Information will also make movement of people more efficient. The urban communities in the information age will shed itself of individual car ownership by dividing itself into nodes within which all services are within walking distance. The different nodes will be linked by public transportation. Increased information emphasis will achieve this. The streets will be filled with people young and old, and both adults and children will work together to bring life back into the cities.

Japanese administrative units were forced from above by the government. It is hoped that we will see the formation of self-contained communities in the future. Of course, we must also consider the formation of larger, regional communities that are formed through an agglomeration of these self-contained communities. The smaller communities will retain their independence and individuality to a great extent, but they will also come together with similar communities, each charged with a different function, to become a part of larger regional communities that share a certain cultural, environmental, and economic characteristic. Communication between such communities will be enhanced by the use of information networks.

The information revolution shows the way for communities to advance and assists the

revitalization of individual regions. The 21st century will likely bring with it its share of economic, environmental, and social problems, probably more complex than those of today. These problems will be insoluble without the realization among people that the problems concern them directly. Recognition within a community of the problems that it faces will create a sense of stewardship in the community. Many people say that the development of such a system is difficult in the climate that is Japan and the sets of values its people hold. But when you examine more closely, we find that the people of the Edo period succeeded in building a sustainable community. Edo period was an age of local dependence, where each of the different regions enjoyed a lifestyle that was their own. We must recapture the sense of self-confidence that we had then. I am not advocating that we should go back to the Edo period. I am simply saying that the prevailing way of thinking in the Edo period holds a clue that helps us realize a bright future. After all, living means fulfilling the responsibilities that nature has entrusted us with.

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