

Transformative Activity of Agroindustry Selection of Processing Technology

by ABMS Zahur

One of the common problems facing agroindustries is the underuse of capacity because of the seasonality of raw material availability and market demand for the product. By adjusting the technology to handle a broader range of products, agroindustries can procure rawmaterials over a longer period that encompasses the cycles of different crops.

THE processing stage is operationally central to an agroindustrial enterprise. Technology selection is often the most important decision of the project's processing operation. The processing technology to be selected for the project should be tailored to meet the market's requirements for product quality. Choosing a technology that will produce a quality superior to that in the market might be desirable as a competitive tool for increasing market share by meeting the unmet preferences. Consumers' standard for quality are dynamic. Therefore, assessment must be made about the risk of the technology's becoming obsolete from changing qualitative preferences.

The qualitative requirements of the export market frequently exceed those of the domestic market. A production shift to exporting may require corresponding technological adjustments. Alternatively, the servicing of both markets may permit a broader use of raw material because products unacceptable for the export market can be sold domestically.

Certain kinds of processing can only be carried out by a narrow range of technology because of the nature of the transformative process. Such technical constraints can have economic implications. A capital-intensive process will have a minimum economic scale of operation, below which the agroindustry will not be financially viable. Possible requirements of scale must be assessed against the market forecasts to see if the project should proceed.

Low opportunity costs for labour exist in Bangladesh because of few employment opportunities. As such a shadow pricing of costs would favour the labour-intensive technological option. One means of redesigning a project to increase utilisation of low cost labour is to de-segregate the technology. This requires the plant to identify

each step in the production process and to assess the use of manual labour for each activity. Handling and sorting of materials can be carried out manually more cheaply than by mechanisation. Packaging can also use labour rather than automation. Activities that require high precision or chemical transformation, however, can only be done mechanically.

The process also relates to economies of scale. The economies of capital-intensive investment rests in part on economies of scale. Large production units are essential to achieving high volume and low unit costs. Low-cost production for the total set of agroindustrial process within an industry does not, however, necessarily exclude small-scale industries. The firm should examine the agroindustrial system to identify the functions that are better performed by small-scale production units than by larger, capital-intensive units. For example, the leather and footwear industry in India comprises the process of skinning, curing, tanning, finishing and making. Skinning and curing are small-scale functions because of the nature of the procurement of the raw material. The tanning process requires large equipment. The shoe and leather-goods-making stage of the process can be efficiently conducted on a small scale with a modest amount of equipment.

However, some are of the opinion that labour-intensive technologies are frequently inferior to capital-intensive ones because they use both more labour and more capital to produce the same output. (See Richard S. Eckaus "The factor proportions problems in underdeveloped areas" in the American review, vol. 50, No. 2 (May 1960) pp. 642-48). Possible approaches may include the selection of labour intensive production stages with in the agroindustrial system.

A project may often save

significant capital by purchasing used machinery. As high labour costs in more industrialised market put a premium on labour-saving innovations manufacturers purchase new machinery to compete. Countries with lower labour cost such as Bangladesh may consider appropriately installing used machinery from these countries because of financial and social reasons. The used equipment does not alter the quality of the end product but takes advantage of the depreciation. The capital savings from purchase of used equipment are sufficient for payment of expenses on training of workers, disassembling and operation of the equipment, the freight costs, the reassembling and installation of the whole equipment complex.

In case of used machinery supply of replacement parts may be difficult to obtain. Some policymakers or plant engineers consider used equipment as "low status" or "unprogressive." Used equipment is also difficult to appraise and, therefore, its purchase complicates the government's task of fiscal assessment. The best alternative to buying second hand equipment appears to be to acquire technology by licensing, subcontracting, or direct foreign investment.

Another factor of production to be considered in selecting technology particularly in a power hungry country like Bangladesh is the energy requirement of technology because agroindustries use significant amounts of energy. Before committing itself to one technology and energy source, the agroindustrial firm should assess the supply and price of alternative fuels and the energy usage of various technologies.

One of the common problems facing agroindustries is the underuse of capacity because of the seasonality of raw material availability and market demand for the product. By adjusting the technology to

handle a broader range of products, agroindustries can procure rawmaterials over a longer period that encompasses the cycles of different crops. The effects of seasonality may be reduced through introduction of multiple crops, the achievement of shorter breeding through animal genetics and the introduction of special advertising to consumers during the off season.

Another criterion for technology selection is the fit of the technology with the enterprise's managerial resources. Managerial talent is often scarce in developing countries, particularly at the supervisory level. Technology selection can minimise the supervisory burden. Skilled technicians are also scarce and the maintenance and repair requirements of equipment must be carefully assessed.

In choosing a technology an analyst should note the possible negative technological effects such as nutrient losses and attempt to minimise them by adjusting the technology or by restoring nutrients through fortification.

The nature of the production process imposes certain limits on the choice of technology, such as minimum economic size. Another critical selection criterion is cost. An analyst should examine the possibilities of the substitution of labour for capital as well as the relations between the energy and raw material usage. The major considerations that should be examined are (a) the processing technology's consistency with the qualitative requirements of the market place, (b) constraints, (c) the socioeconomic costs, (d) how the technology affects use of project capacity (e) how the technology fit with the firm's managerial capability, and technology's nutritional consequences.

The writer is a retired Joint Secretary, Government of Bangladesh

The Press is Thriving in Bangladesh

by Enayetullah Khan

There are now as many as 218 daily newspapers and about 251 journals, magazines and periodicals in the country representing various shades of opinion and views of a wide spectrum of the society.

THERE were no newspapers or journals in the subcontinent until 29 January 1780 when Mr James Augustus Hicky ventured to bring out his Bengal Gazette from Calcutta containing two sheets of paper about 12"x8" size. The first newspaper in this part of the sub-continent *Rangpur Bartaboo* appeared in 1847 under the editorship of Gurucharan Roy Chowdhury. First English language newspaper *Dhaka News* appeared in 1856 under the editorship of A.R. Frobes. First radio broadcasting began in 1936. First television broadcasting began in 1963. Bangladesh has free access to satellite channels since 1990. First cable operators began their operations in 1992 although no law has been enacted to regulate cable broadcasting. We have six Internet Service Providers (ISPs) in the private sector. Most of the major newspapers have their own website.

Freedom of Press in Bangladesh is upheld by the country's constitution, which says, "Subject to any reasonable restriction imposed by law in the interest of security of the state, friendly relations with foreign countries, public order, decency and morality or in relation to contempt of court, defamation or incitement to offence, the right of every citizen to freedom of speech and expression and freedom of press are guaranteed." The freedom of press in Bangladesh in practice, however, has suffered distortions in one form or another, particularly during the periods when the country was under martial law in 1975 and 1983 and prolonged military-turned-civilian rule from 1975 to 1990.

Press in Bangladesh is particularly lucky that it got Justice Shahabuddin Ahmed as the President of the interim government in 1990. In the wake of the dissolution of the autocracy, he acted as the midwife to democracy and by way of ensuring freedom of the press as one

of the basic conditions of the new political order, he abolished the relevant section of the Special Powers Act (SPA) relating to pre-censorship and banning of newspapers. This gave the print media, the electronic media still remaining under government control, a great measure of freedom and flexibility. The print media has since thrived and today we have some 500 or more newspapers and magazines published in a country where the readership is still very limited owing to a number of factors, illiteracy and insolvency being most obvious.

Though incidents of violation of freedom of the press have significantly reduced during the year 1998 (compared to the years 1995-1997), the trends and indicators of achieving freedom of the press have not improved. This has largely been attributed to a number of restrictive laws governing the media. These laws give leverage to the government and others to use them against their rivals as a 'punitive' measure. In the general atmosphere of intolerance, these restrictive laws come in handy to beat the rivals. There are some 25 such laws, enacted between 1923 and 1991, governing a wide range of media, press, wire service, radio, television, theatre, audio, video, cinema, advertising, traditional folk theatre, etc.

The government wields indirect influence over the press by way of retaining control over distribution of government advertisement and newsprint quota to newspapers. Provision for issuance of warrant of arrest against journalists in defamation and libel suits under the Criminal Procedure Code (Cr.P.C.) still remains although efforts are underway to replace arrest procedure with that of summons.

Despite being a pledge by major political parties in the general elections following 1990 ouster of the autocratic regime

the political parties who governed the nation have done little for fulfilling their election commitment. Though the print media was freed from pre-censorship and banning by the interim government, the electronic media is still controlled by the government. The present government had instituted a Press Commission for looking into the vexed question of giving autonomy to the electronic media — the Radio and the Television. The report of the Commission has long been submitted to the Prime Minister but no action has yet been taken.

While the matter of granting autonomy is gathering dust, government has opened bidding for sanctioning private TV and Radio channels. Hopefully, at least one private channel in TV and Radio is likely to be operative in the near future.

We do not know if the Press Commission considered the question of satellite information technology for Bangladesh. There are a number of benefits Bangladesh can derive from introducing satellite communication, but that necessitates a quick look into the preconditions, viz. (a) formation of a comprehensive satellite based communication policy, (b) framing an appropriate communication strategy to ensure national development (c) building up a balanced satellite based communication infrastructure. It is true Bangladesh cannot beat the present transnational satellite information dissemination scenario. The question does not arise, but it can certainly join in. The former BNP government's decision to join Asia Sat-2 was a step in this direction. Satellite poses a threat to traditional culture and values of the society, but a truly democratic government can sustain values through its own efforts and sensitize people against the baneful influence of alien cultures. Not joining the satellite race would be a retrogressive step.

The present democratic government has announced to review the existing restrictive laws by a law commission. It has already repealed a law which bound the theatre people to submit their scripts for pre-censorship. It has relaxed restrictions on the traditional folk theatre too.

Following amendment of the Press and Publication Act, application for permission to bring out newspapers cannot be denied which explains why so many newspapers came out after the transition to democratic government in 1991.

The Editor of a daily Bangla newspaper called *Runner* was murdered in outlying Jessore district on August 30 this year by unknown assailants for his fearless writings against smugglers and terrorists. He was sprayed with bullets on the fateful night when he was returning home. His murder has sparked a storm of protest throughout the country, specially among the journalist community. The government promptly entrusted the investigation of the case to Criminal Investigation Department. Some arrests have been made.

The press with its new found freedom is thriving in Bangladesh. There are more daily newspapers here than in most countries although the combined circulation is still poor. There are now as many as 218 daily newspapers and about 251 journals, magazines and periodicals in the country representing various shades of opinion and views of a wide spectrum of the society. The sheer volume and number of newspapers is itself an indication of press freedom under which the print media is growing in strength and stature.

The writer is Editor, *Dhaka Courier*. The above are excerpts from his paper presented at CPU (Commonwealth Press Union) Conference held at Kuala Lumpur from 26 to 29 October, '98.

Are We Our Own Nemesis?

Joginder Singh writes from New Delhi

The minister, being a politician does not know the way of functioning of the government and the tricks bureaucrats play to see that what they do not approve of becomes a government policy.

WHAT is the best method of ruling? Is it by the strategy and principles of survival or by saving the best interests of the country? The country invests a great deal of time, efforts and money to choose the right persons to serve it. Yet most of and time, most of such people fail to perform their strategic function of providing the greatest satisfaction to the greatest numbers.

The attrition rate works out to at least 10 per cent every year for people to lose their zest, enthusiasm and spirit of dedication. Though no one purposely engages the unfit, the undeserving yet in a short period the good become mediocre and mediocre deteriorate to be liabilities.

A substandard employee in the government instead of being a problem solver for the country becomes a problem for his subordinates, seniors and colleagues. Such a person has a multiplier effect on the system. Errors committed by him are at the cost of the national exchequer and naturally the productivity suffers. A mediocre does not work hard enough to overcome the snags of limitation of knowledge or lack of skills.

The system of reservation, introduced not with a view to select the best, but to select on the basis of caste or region has further ensured that modern management practices of putting the right man in the right job, in the government sector cannot be applied. The team or the organisation has to carry the weight of a non-worker, when there is a combined effort for completing any assigned work.

The tardy and abysmally slow procedures for firing bureaucrats ensure that even absenteeism and tardiness are not sufficient in spite of huge paper work, documentation and all evidence of unworthiness for the job. The bill for the best and worst worker is underwritten by the common man through the taxes paid. The coexistence of the good and bad worker acts as a disincentive for the performers as both draw the same emoluments.

Whenever there is a scheme to be implemented the bureaucracy in a self-perpetuating

manner suggests creation of additional jobs. The result is an ever burgeoning and self-perpetuating bureaucracy.

The minister, being a politician does not know the way of functioning of the government and the tricks bureaucrats play to see that what they do not approve of becomes a government policy. One serving chief secretary of one of the most developed states in the country admitted, that out of the 56 ministers in the state, only six of them understood how the government worked.

Only this limited number had an idea that something could be done to improve the lot of the people. Rest were not interested, except in transfers, postings or making money where they could. Most of the ministers did not attend their offices nor did they review the working of their departments. He did not recognise a vast majority by face, as they rarely were available in the office. The cabinet meetings were a joke, because only a handful of people knew or read the agenda papers. Others were either 'silent spectators' or 'yes men', or they would oppose all proposals with a view to show the chief minister down.

In this climate the principle of ministerial or bureaucratic accountability was only a myth on paper. The government work or disciplinary proceedings or posting were decided on caste basis. The inconsistent policies even of reservation and adhocism in recruitment or postings or schemes sent wrong signals. The government instead of governing was bogged down in litigation or answering its actions in the court.

Right from the birth to death, there is either a law or rule to govern life of every individual. Over rule making and law making has put the country in a 'chalgavyuh' (vicious circle) from which the mythological Mahabharata hero Abhimanyu could not escape. Despite a plethora of laws, the incident of lawlessness is probably one of the highest in India.

There is a law called Prevention of Food Adulteration Act. Laws or no laws, adulteration has been going on right from

milk to medicine to all food-stuffs. The bureaucracy has a knee-jerk reaction to every happening.

The 52 dropsy deaths and over 2100 tinned seriously ill as a result of adulterated mustard oil including that manufactured by the government companies is a matter of shame. The companies manufacturing popular brands have also been indulged in such malpractices with impunity.

Obviously nobody bothered to take the preventive steps and ensure that quality stock is marketed rather than the one adulterated with used mobil oil, phenol, mineral or castor oil. Except for registering cases with the police, no officer whose responsibility was to check the material has been sent home.

Most traders will always be greedy and take advantage of the callous and indifferent administration and enforcement. Police investigation is no substitute for taking remedial measures to nip such likely happenings in bud. What is the point of government having a huge food department when they cannot do their statutory duties properly?

It is the top man whose head should roll and not of the last man in the chain of responsibility. Around five to 15 per cent affected by the use of adulterated oil may lose their eyesight either partially or fully.

The capital is not the only affected place. Haryana, Uttar Pradesh, Orissa, Bengal and Assam also share the 'dishonour'. In some places, the traders were told to destroy the suspected adulterated mustard oil. The trader is in the business of making profit and such an appeal would not yield anything more than a publicity effect.

With huge government paraphernalia, what is needed is the will of the government and not sermonising. What has happened now had happened in the past — whether it was substandard use of disposable injections or medicines or rice mixed with crushed stones or adulteration of vanaspathi (hydrogenated oil) with beef tallow in 1983-84 — will happen again after the present furore is over.

Due to lax law enforcement,

adulteration is rampant in almost everything for sale in the market and goes unpunished. To divert attention from such happenings and keep their vote bank intact, a common and well used tactic is to order a judicial inquiry or set up a committee or a commission to suggest remedial measures.

Most of the maladies that afflict our system and society are already well known and had been pointed by such bodies set up in the past to examine similar happenings.

Whenever there is a demand from the organised sector, which can hold the community to ransom the government after having and thawing yields.

The civil aviation minister admitted that Indian Airlines employs 700 personnel per aircraft. The world norm is 160 people for each aircraft. It is true that the presence of the competition induces a spirit of efficiency in the private sector. It is also a fact that a considerable presence of the public sector is also essential in the vital economic sector.

But there can be no justification of running them in the most inefficient manner. The public sector should not copy the ever bulging bureaucracy in the matter of size, incompetence and in being too hierarchical.

Even by the government admission the headcount of ratio of poverty line is nearly 36 per cent for the year 1993-1994. The definition of poverty line is based on a definition of Planning Commission, which mentioned the per capita expenditure on daily calorie consumption of 2400 cal in rural area and 2100 in urban areas.

We live in an age in which every day is a challenge. Human beings have the greatest flexibility and each nation differs, culture wise, perception and attitude wise. We as a country are racing against the market in improving the standard of living of our people. It is time that those charged with this responsibility be stirred in a way, in which the greatest good of the greatest numbers is achieved.

— APB/PTI Features

The author is a former CBI director.

Tobacco Industry Suffers Setback in March on Southern Markets

A grass-roots campaign, with little help from government, has managed to cut cigarette consumption in Mauritius, despite strenuous efforts from the tobacco barons to corner new markets and new customers.

Nasseem Ackbarally writes from Port Louis

ONE Saturday night in June, British American Tobacco — Mauritius' only tobacco manufacturer — organised a grand *fete* for young people at the Citadelle on the outskirts of the capital Port Louis to mark the launching of a new cigarette brand. Thousands of free cigarettes were distributed.

The event was part of an aggressive marketing campaign to boost take-up of cigarette smoking in Mauritius.

Like everywhere else in the South, Mauritius has seen an advertising and marketing frontal assault from the tobacco companies.

With Western markets drying up, thanks to high-profile court cases, advertising bans, and prominent warnings on the packaging that "Smoking Kills," the logical target for new people for each cigarette. It is true that the presence of the competition induces a spirit of efficiency in the private sector. It is also a fact that a considerable presence of the public sector is also essential in the vital economic sector.

But not, it seems, in Mauritius. The tobacco industry here is declining, thanks to an open campaign led by the Institute for Consumer Protection (ICP) and thousands of individual citizens.

BAT's figures, published in the local press, indicate a 4.5 per cent fall in the sale of cigarettes during the first six months of this year compared to the same period last year.

The trend is gaining momentum, according to Agriculture Minister Arvin Boolel, who has asked publicly that he has been asked to "suppress" the tobacco industry.

The anti-tobacco lobby affects consumption considerably — almost at the rate of 2% annually," he told tobacco planters at a meeting in October

where the future of the industry was being discussed. "I am opposed to suppression, as I feel Mauritians should be free to choose to smoke or not."

Nonetheless, government policy for some years has been to push up tobacco taxes sharply every year, to encourage people to quit or not to start. Tax revenue from tobacco climbed 89% between 1992 and 1997, with the most recent excise duty hike of 10% coming in June.

This cheering news for the anti-tobacco campaign follows the industry's gains during the past five years, during which it succeeded in persuading 50 per cent of men, but only 5 per cent of women, on the island to smoke. "The industry has a clear field during these years to influence people with an aggressive advertising campaign," said Veronique LeClézio, coordinator of the Anti-Tobacco Coalition (COAT) launched last May at the initiative of the ICP.

Not the least of worries among anti-smoking campaigners is that the concentration of marketing in developing countries will severely strain their economies, once the toll of illness and death mounts up. World Health Organisation figures estimate that whereas 1 million people will die this year from smoking related illnesses, over 7 million — most of them in the developing world — will do so by 2030 if present trends continue.

Already in Mauritius the effects are showing. "Today, the deaths of at least 700 people on the island every year are due to illnesses related to tobacco. The number of people treated in hospitals are also on the rise," said LeClézio.

This, she said, means that BAT needs 700 new customers a

year to retain its margins. As an example, she pointed to BAT's aggressive advertising campaign in the local press, targeting new consumers, mostly youngsters and women. The adverts show young people, mostly women, tasting the "pleasure" of the tobacco and inviting others to join them.

The adverts evoke mixed reactions among their young targets. Nazir Agawan, 19, like many others just wants his puffs. "I cannot resist the temptation of burning a cigarette," he says.

Parvez, 17, thinks it's a good thing to have the ban on tobacco adverts "because it is through adverts that people know where tobacco is available. Without them, they'll smoke less and will get less illnesses."

Fayaz, a 16-year-old college student, has talked about tobacco's dangers to many of his friends at college who smoke, "but nobody listens to me."

One student, Christophe Montagne Longue, 15, took the challenge by launching a sensitization campaign against tobacco in his college, a task which helped him to win the Teenager of Mauritius Award 1998.

"I've witnessed my uncle die because of tobacco," he said. "That's how I decided to sensitize my friends on the risk they take by smoking." His inquiries at his college concluded that lots of students his age have started smoking encouraged by others. "We did not have the courage to say no," they confess to Christophe.

When the opposition Movement Militant Mauricien raised the matter of BAT's advertising tactics in the National Assembly five months ago, acting health minister Kadres Pilly replied: "Adverts on tobacco will be banned." He added

a special unit will be set up in the Ministry of Health to combat addiction to smoking together with a campaign asking tobacco vendors not to sell cigarettes to anyone younger than 18.

At the time, non-smokers, Yousof Jhugroo, the ICP's director, congratulated the government for its "courage" in announcing the ban. This decision places Mauritius on the same level as France, New Zealand, the US and Australia," he said. He also expressed his appreciation that some advertising agencies have decided not to promote tobacco.

People are still waiting for the ban to be put into practice. Sources say new legislation is in preparation, but this does not stop BAT's campaign.

BAT's director, A Noronha says adverts are used to give information to people about products available and help them to make the right choice. "To smoke or not is an adult's choice," he said.

COAT does not agree. On 1 August, its members protested energetically at the Champ de Mars Racecourse against the sponsorship of horse racing by the tobacco industry, distributing some 5,000 leaflets denouncing it.

COAT's campaign is continuing with posters and testimonies by well-known personalities who do not smoke. "We are starting with the President of the Republic, Cassam Uteem, once a heavy smoker who stopped some years back on grounds of bad health," COAT's LeClézio said.

"It is our duty as citizens to stop tobacco addiction in this country pending anti-tobacco legislation."

— Gemini News

Kenya's Troubled Asian Bank Lays Off Staff

by Chander Mehra

THE air of uncertainty surrounding the fate of Kenya's sixth largest bank, the Asian-owned Trust Bank, has thickened with more than 600 employees of the bank's 17 branches being asked to go on indefinite leave without pay.

The Tanzanian branch of the Trust Bank has also been placed under statutory management. However, its Karachi branch has not been affected in any way, informed sources said. Trust Bank's Central Bank-appointed statutory manager Michael Muhindi said it had become too expensive to keep the employees "around without knowing when the bank may reopen. They should have gone earlier because I am a poor person and cannot pay people who

have not worked. Rather than have them yawning here, I would let them go home and then call them back when things normalise." Most of the bank's managers and supervisors are either South Asian or expatriate Indians and Pakistanis while the tellers and messengers are African.

The actions sent shock waves among the bank's customers who were expecting a promised withdrawal package. The bank still has deposits of about Kenya Shs. 7.0 billion even after the panic withdrawal of Kenya Shs 4.0 billion one day before the appointment of the statutory manager. The bank has also been accused of

racial bias with the African employees alleging that while most employees of South Asian origin were retained, the majority of Africans had been asked to go.

"We are not even sure if we shall ever be called back. This leave-without-pay letter may finally turn out to be a termination of service without the legal benefits," said one African worker on request of anonymity. According to banking industry sources, the Central Bank has asked Trust Bank chairman Ajay Shah and other directors to raise at least Kenya Shs. 750 million as working capital in cash before the bank could be allowed to

open its doors to the public.

"They have raised more than Shs 400 million and are most likely to raise the balance in the next few days," the chairman of a medium-size Asian bank told IANS. "I personally expect the bank to re-open in the first week of November, but for limited business only, withdrawals being limited to only K.shs 100,000 even if you have four million in the bank and then wait for another year or so for a little more, leaving your balance to earn only five per cent interest against the market rate of between 25 and 30 per cent, depending on the amount of your deposit," he added.

— India Abroad News Service

Garfield
ANN WON'T GO OUT WITH ME
BUT THERE ARE PLENTY OF FISH IN THE SEA, GARFIELD
I'LL JUST CAST OUT ANOTHER LINE
THERE'S A HOLE IN THE BOAT AND THE BAIT'S DEAD

James Bond
BY IAN FLEMING
DRAWING BY MORAK
CRUISER TO VICTOR-2... STILL NO MAGNETIC INDICATION?
NEGATIVE... OUR DETECTION GEAR SHOWS NO METAL PRESENCE IN THE AREA... WE'RE NOW UNREELING OUR SONAR TO LISTEN!
THE MOTHER-SHIP CRUISER REACHES THE SEASIDE... BUT EVEN ITS POWERFUL 'BOTTOM-BOUNCE' SONAR YIELDS NO CLUE TO SEA SLAVE'S FATE
SUNK OR DRIFT? SEA SLAVE IS SOMEWHERE... AND SHE MUST BE FOUND!
I NEED HARDLY EMPHASISE THE URGENCY OF THIS SEARCH, GENTLEMEN!
I SUGGEST WE RADIATE AT ONCE!