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**European Commission
Directorate General for Health & Consumer Protection
Unit C4- Health Determinants
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I am a specialist in mineral water issues from the Professor J. Aleksandrowicz Polish Magnesiological Society, which is a scientific association involved in researching the effect of micronutrients on the human body and its habitat. The Founder of the Society, Prof. J. Aleksandrowicz (1908-1988), was an outstanding doctor, who advocated principles for a healthy diet and a healthy way of life. He paid particular attention to the mineral content of our diet, especially magnesium and calcium, but also to other micronutrients essential for the development of the human body and human health. I had the pleasure and privilege of working with Prof. Aleksandrowicz for a few years and he engrafted me with the ideas which he held dear, and I am now trying to continue his recommendations.

I have been working with mineral water for decades and it is for this reason that I would like to comment on its significance and role for human nutrition and on the development of a healthy diet using water.

Taking the message of the GREEN PAPER as an inspiration, I have initiated and prepared a programme for the promotion of mineral water as an important element of nutrition which can lead to an improvement in the mineral content of our diet. This programme, entitled WODA DLA ZDROWIA (WATER FOR HEALTH), has been operational since January 2006 under the auspices of the Professor J. Aleksandrowicz Polish Magnesiological Society. The National Chamber of Commerce "Food Industry" is a partner in the implementation of the programme. Mineral water producers and other selected business and consumer organisations are also participating. I have also obtained the involvement of research centres from the leading Krakow academia, including: the Faculty of Healthcare at the Jagellonian University Medical College, the Faculty of Food Technology at the Agricultural University of Krakow, and the Faculty of Commodity Science at the Krakow University of Economics.

The programme is being conducted in accordance with the agreed plan and one of the main initiatives is consumer education through articles in the press, publishing, presentations in schools and other centres. A special portal has been set up in order to promote the programme: www.wodadlazdrowia.pl. I am also organising an academic conference, to collect material and opinions on the significance of water as a fundamental source of nutrition, that provides the human organism with the mineral elements it needs and is lacking in the average diet of the public. Evidence will be produced at the conference on the importance of fundamental micronutrients to health - nutrients which can be found in mineral water in significant quantities. Consideration will be given to whether the human organism's need for such elements can be met through the generally available mineral water and the body's degree of absorbency of such minerals. Other health implications of mineral water will also be discussed. The conference will take place on 12 and 13 May 2006 in Krakow.

I enclose my opinion on the issues contained in the Green Paper and the programme promoting mineral water entitled WODA DLA ZDROWIA (WATER FOR HEALTH).

I would also ask for consideration to be given to assistance from the funds held by the European Commission for such purpose or assistance in some other adequate form, in order that our activities will be able to move forward.

Yours sincerely,
Tadeusz Wojtaszek

Opinion on the issues raised in the European Commission's
Green Paper of 8 December 2006 [sic]

As I have for some 25 years been involved in matters relating to mineral water and its importance for health, I have concentrated my opinion on the Green Paper on those matters with which I am involved.

My opinion relates to particular sections:

IV.3.

The issue of healthcare is not only about treatment, but also about prevention, and this does not get much attention. In my field of work, there is a huge unused potential of ecological preventive health treatment using natural mineral water and also water and drinks enriched with mineral elements. This area should be taken into consideration in the European Union's policy, because it is a preventive treatment that is widely available and plentiful. It can also have an important economic aspect, stimulating local communities and businesses to make use of local, natural resources, developing entrepreneurship and creating new jobs.

An example of this is the founding and development in Poland of several bottling plants, at Krynica, Muszyna and Piwniczna in the Beskid Sądecki region, which produce millions of litres of excellent mineral water each year with significant quantities of mineral elements that are important to health. The overall mineralisation of these waters varies between 1000 and 3000 mg/l, and the most important fact is that they contain many micronutrients beneficial for health such as magnesium and calcium, which play an important role in the human body. The average magnesium content in these waters varies between 50 and 200 mg/l, with calcium varying between 150 and 500 mg/l. This is the remarkable richness of the region, which can aid the health of many people.

IV.4.

The Health and Consumer Protection Programme should also take into account the neglected issue of water as a basic aspect of diet. As the outstanding doctor and ecologist Prof. Julian Aleksandrowicz stated: *a man's life and health are largely dependant on the quality and type of water he drinks on a daily basis*. Admittedly, it is generally recognised that water should not contain bacterial impurities and elements that are prejudicial to health, but not everyone realises that water as a very important element of diet should contain minerals which are essential to the body's functions and which are lacking in the daily diet. Communicating this apparently evident truth, backed by scientific understanding, should be a very important aspect of education not only of consumers but also to individuals responsible for shaping dietary habits: in other words doctors and dieticians, and those who make regulations and recommendations in this area.

V.1.

Mineral elements are a very important part of nutrition. In balancing a diet, consideration is primarily given to the body's energy needs, satisfied by the metabolism of carbohydrates, fats and proteins. However, it is unfortunate that less consideration is given to mineral elements and these condition many of the body's life processes.

One of the important elements of diet is water, which can also be a carrier of mineral elements for the body. Unfortunately, in balancing a diet, the mineral content of water is never taken into consideration. Why is no attention given to the option of mineral water, appropriately saturated with micronutrients, the systematic intake of which could be a natural means of ecological, preventive health treatment?

The issue requires wider examination. The concept of mineral water prevalent in many countries relates to water that comes out of the ground and takes no account of the quantity of individual minerals contained in it. This concept of mineral water is drilled into consumers by the

relevant advertising, which in France for example, has been going on since 1870. Today, its persuasive force rather than the value of the water is testament to the producers' success. The water in question contains barely 475 mg of mineral content per litre. Another French water, which in one litre contains barely 110 mg of total mineral content, of which 6 mg is magnesium and 10.4 mg is calcium, is advertised in the company brochure as the water for sports people (!) and "*should be drunk before, during and after physical activity...*" and that it: *is wonderfully absorbable because of the right mineral content, chemical balance and the presence of valuable trace elements*. This is dishonest advertising at best, and even criminal, as drinking such water during major physical effort has the effect of diluting electrolytes in the athlete's body, with potentially tragic consequences. The role of magnesium is key in this case, as it is very rapidly excreted from the body in such extreme situations.

At the battle of Marathon in 490 B.C., the Athenians achieved a famous victory over the Persians under the leadership of Miltiades. The legend says that a messenger named Pheidippides was dispatched with news of the victory and having run 42 kilometres he dropped dead in Athens. Modern medicine now views this sudden death as the first recorded case of a heart attack caused by loss of magnesium through excessive physical effort. The theory that magnesium deficiency is a cause of sudden death in athletes is now universally accepted at the present time.

In the diet of athletes in particular, attention is paid to energy content, which disturbs proper nutrition. Mineral content, which regulates metabolic processes, is dealt with only at the margins. This theme could be developed, by giving further examples and argument, but the issue here is to emphasise the problem.

The health of the population in general also depends on the quantity of mineral elements in water. The epidemiological studies carried out in many countries are well known, whereby people drinking hard water are less vulnerable to illnesses such as heart disease. The Finnish experience, under the direction of Prof. Pekka Puska, has led the way in research of this type and in acting upon the findings.

It follows that human health is to a large extent dependant, not only on the quality of the water that we drink, but also its composition. Consideration therefore needs to be given to water composition in any measures to improve nutrition, and to promote the drinking of genuine mineral water containing the right quantity of mineral elements acting beneficially for the human body.

V.2.

The public's awareness of the role of vitamins, thanks to many years of consumer education, is matched by the failure to find a solution to the problem of mineral elements. In many cases the information given by producers is deliberately twisted and contrived so as to give the impression that their products have some kind of exceptional characteristic. I can give an example from personal experience. During a train journey a fellow passenger was boasting that he had a heart that was as sound as a bell, because he drank water that contained potassium. I asked him which water this was. When he gave me the name, I told him that he should allow a thousand years. He was pleased, but surprised and asked why. For the potassium to have an effect on his body he would need to drink that water for such a length of time. The water in question contains about 15 mg potassium per litre and as the body's daily requirement for this mineral is about 3000 mg, he would only be able to meet 1% of the body's requirements for the element even if he drank 2 litres of the water. Moreover, in a normal balanced diet there is usually a sufficient supply of this element. Sometimes there is a need where illness is involved to supplement it using medicine, but certainly not by using water. But the reference on the label indicating that potassium is present in the water suggests to the consumer that this is an important and necessary element for him. The same company has even filed a trade mark for the water which allegedly contains: "*excellent proportions of the calcium and magnesium minerals*." The water in question contains in a single litre only 23 mg of magnesium (in other words, almost none) and 120 mg calcium (another insignificant quantity) in a ratio of about 1:5 where the correct proportion in this respect should be 1:2. The ratio is meaningless in any event as there are

simply not enough of the mineral elements for them to have any effect on the human body. Yet the myth of the patent plays on the consumer's imagination.

These are examples that show that it is not enough to educate consumers but that producers need to be told and even called to order, as they are taking advantage of the consumer's ignorance and bringing a great deal of confusion into consumer awareness.

Relevant European standards of labelling for mineral water and spring water sold commercially need to be prepared, which should be enforced by the relevant authorities in the member states. The current regulations allow so much freedom of interpretation, and the producers of ordinary bottled water have an interest in the customer not seeing what he is buying. It is enough to look at the labels on many "reputable" so-called "mineral waters", to see just how small the print describing the product is. Most customers do not take a magnifying glass with them to the shop, although it is difficult to read anything whatsoever without one.

Any conscious decision by consumers to choose particular products must be based on reliable information provided by the relevant institutions, organisations and other competent bodies. The information can be provided in many forms, but the media certainly have an important role to play, provided that authors make use of reliable information that is not dreamed up to cause a sensation. The internet plays a huge role at the present time, but there is a great danger arising from this, as in the flood of data there is a lot of false and misleading information, and only a high level of awareness on the part of the recipients will lead them to choose the correct information.

One attempt at positive action using the internet for greater consumer awareness is the educational portal I have set up in partnership with research and teaching organisations entitled "Water for health".

V.3.2.

A good example of action to reduce intake of sugar-sweetened soft drinks is the replacement of such drinks in school shops with good mineral water.

Paying attention to young people (and it not only concerns them) is very important in the area of consumer education. One can now observe a reversal of relations in the transmission of better habits between children and parents. This can be seen in the area of environmental education. It is often children who draw their parents' attention to bad habits and are able to assert their opinion. Such relationships could be advantageous in the area of dietary awareness. Great attention should therefore be paid to the education of children and young people.

V.4.

Not all employers realise that making appropriate food available in the workplace is not only good for employee health but it can also improve business results. There would be a mutual benefit were they to understand this. By way of example I can cite the example of one of the deep coal mines, where for more than a year the number of miners fainting has been reduced to zero, by replacing the usual water used to quench thirst with a regenerative drink containing the appropriate vitamins and mineral elements, produced using a prescription that I prepared for them.

V.5.1.

Doctors unfortunately do not pay attention to obesity in their patients, particularly children. They do not instruct patients as to how they may protect themselves against this disease. They do not explain the causal link between obesity and diet. Equally, neither doctors or dieticians pay attention to the option of supplementing diet with minerals using mineral water. This is primarily because they do not know the area. I was once at a major academic conference at which a great deal of time had been given over to discourse on whether salt was safe for health and whether it was a preservative or not. I got into conversation with an outstanding expert

involved in diet and water and its elements. During the next part of the meeting he unexpectedly asked me to speak saying: *Please tell us about the role of water in our diet because we overlook it completely and do not take this important element of diet into consideration.*

I find it difficult to find a doctor in general practice who knows any more about water than that it is essential for life itself. The issue should therefore be dealt with in the training of doctors. In order to consider the matter, I am organising a scientific conference in May 2006 entitled WATER FOR HEALTH.

V.6.1.

For years Polish Radio used to broadcast a programme entitled *Poranna gimnastyka (Morning gymnastics)*, which encouraged listeners to carry out gymnastic exercises to music. It was an excellent means of getting people involved in physical activity. During the change of regime in Poland the broadcast was scrapped, on the supposed grounds that this was a type of social enslavement (?!!!).

There are a few fitness programmes on television, but at times that are not suitable for all. Such measures need to be developed, but adapting them at the same time to realistic opportunities.

V.7.1.

Culinary habit and tradition are of great significance to the way families eat. However, these are shaped by all kinds of books, media press and television, particularly through women's colour magazines. Unfortunately, they pay more attention to the taste of the food, its aesthetic appearance, embellishment of the dish, whatever is more effective, rather than to the nutritional value. Less attention is paid to mineral content in the description of the nutritional value, and this can be supplemented using mineral water. If there is any mention of water as part of the meal, the suggestion will be that still water should be given, and no mention will be made of mineral content at all. The related nomenclature has also become distorted. Water given with a meal used to be referred to as *table (mineral) water*, as it was served at the dinner table and could be distinguished from *medicinal mineral water*. Now there is a regulatory requirement to refer to *bottled mineral water* and artificially mineralised *table water*, which has brought confusion and nonsense into the matter. It may be a trivial thing, but it creates a negative reaction in the mind of the consumer.

V.8

Consumer awareness is the most important element in promoting healthy diet and physical activity. This is so obvious it has become a cliché. However, we have to appreciate that awareness has to a great extent been confused by business making profits from bad dietary habits fed by dishonest advertising and this needs to be opposed. There should be sanctions for publishing information in advertising and other public material that is false or misleading to consumers. Even the time at which the advertisement is broadcast is carefully chosen. As an example I would suggest the advertisement for an ordinary type of water, produced by one of the large corporations. The advertisement was broadcast on television only in the morning hours when people are getting ready for work or school. There was no time to analyse the message, and only the words and accompanying message would be remembered. The advertisement referred to a particular brand of water that was sold as being "water, rich in minerals". If this advertisement were broadcast during the day, there would be more time to consider what rubbish this is and it would lose any point whatsoever. Doubtless many consumers were taken in by it. Who should call such a producer to order? Is self-regulation sufficient? I think not. There needs to be a plan of action at national and European level to protect the consumer against such indoctrination.

V.9.

I believe and will again emphasise that in balancing a diet it is essential to take account of water as a carrier of micronutrients that are vital to the human body. Mineral water and even so-called *table water* enriched with mineral elements can be one of the most important carriers that

supplement the diet with mineral elements such as magnesium and calcium, the deficiencies of which can reach in the average diet of central Europeans some 1/3 of the required daily intake. The propagation and drinking of water with high magnesium content (more than 50 mg/l) and calcium content (more than 150 mg/l) can contribute significantly to reducing the lack of such micronutrients in the human body. The ionised forms of such mineral elements are better absorbed than they are from other preparations.

There is neither any danger of overdosing on such elements as the body has the appropriate mechanism for regulating their use and the person who has the least need of them can drink the water without worry. An excess of them in the diet causes no damage but the lack thereof can have disastrous effects.

V.10.

An organisation like the European Union should take the lead in any action to apply a single set of dietary principles across the world. The basic principles obviously need be modified in the light of environmental, regional and agrarian conditions etc. One of the elements in this is water, which is referred to in many programmes, but only in the light of its availability and microbiological purity and the content of the undesirable elements. No attention is paid to the elements that are beneficial to health. For this reason the body's need for mineral elements from water is generally overlooked and ought to be emphasised.

V.11.

Unfortunately, the Green Paper makes no reference to water at all, but I hope that the issue will be taken into account. However, I think it is very positive that the issues referred to have been put out to such wide consultation. I greatly value the opportunity to express an opinion on subjects which are of interest to me and which confirm the direction of the measures I have taken to popularise one of the elements of a healthy diet.

The Green Paper for me has been an inspiration for popularising mineral water as an important element of our diet.

I have placed the issues contained in the Green Paper on the www.wodadlazdrowia.pl website in order to bring them to a wider audience.

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