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Bringing Awareness about the Environment and Healthy Living: Nourishing the Planet's Energy for the Survival of Life

This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/152207> since

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**Bringing Awareness about the Environment and Healthy Living:
Nourishing the Planet's Energy for the Survival of Life**

Autore: Freccero, R. pubblicato su Feedingknowledge Expo Milano 2015

Abstract

This research is based on the education of the environment to preserve the planet and create a public awareness. We are striving to educate others on how to nourish the earth, promote energy useful to the human life with healthy developments and guarantee good health. This study began in Valle Argentera Municipal district of *Sauze di Cesana*. This environment, the pastures and the production of “noble milk”, meaning the purest form of milk, where the indigenous people’s lifestyle made homogeneous through adaptation to the alpine ecosystem. By this, it gives results useful for the divulgation of “good practices”. The Sauze community in the inter-living propose new courses of nourishment and nourishing oneself. This area is rich in providing fresh product that has not been manipulated and it’s the main resource to this area. It is the total essence of the Sauze community. For more than a thousand years the church of San Restituto is the focal point and the symboliser of faith and the work ethic to this community. It is the imposing spiritual and cultural fortress in the heart of the Valley. For this population, the land in both the materials and universal goods is to be defended and cultivated with knowledge and respect. From here, comes the first indication of “territorial health”, from unpolluted water to pastures, how attention to origins and self-nourishment is balanced thanks to the honest use of resources. Human life, land, water, livestock are one in the same. Products are the result of knowledgeable balance. In this district, there are families that have inhabited the area for generations upon generations back: Berton, Perachon, Manzon, Merlin, Prin Abeil, Prin Clari, Prin Derre. This innovation of this research consists in education of “good practices” to promote the wheel of life.

KEY WORDS: *Alpine populations, promoting energy, good health, education and public awareness.*

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References

Introduction

The Italian National Institute of Agricultural Economics (INEA) is a public research department under the supervision of The Ministry of Agricultural, Food and Forestry Policies (Italian: Ministero delle Politiche Agricole, Alimentari e Forestali: MIPAAF). Since 1928, it has responded to the increasing needs of the Italian agro-industrial sector and has carried out research, surveys, analysis and prevention for the agricultural industry, forestry and fishing. Since 1965 INEA has been the institution linking Italy with the European Union for the creation and management of an Agricultural Accountancy Data Network (Rete di Informazione Contabile Agricola: RICA, <http://www.rica.inea.it/>).

This network is carried out with a similar approach in all EU Member Countries and represents the only harmonized source of micro-economic data on the business operations and economic structural dynamics of companies operating in the agricultural sector. The primary task of the RICA is to meet the required needs of the European Union for the definition and evaluation of Common Agricultural Policy (CAP) [1], thus making it an essential instrument for the formulation of agricultural policies, programming and evaluation.

INEA supports the Public Administration in the definition and realization of aid policy in the agricultural and rural development sector, with particular attention to those policies proposed by the EU. Moreover, among its lines of inquiry, it carries out political and developmental research in the most marginal rural areas in order to increase the value of agricultural resources.

Today's European agro-food system scenarios and trends emerge from the numerous INEA publications. However, the most spontaneous question is, what can we the teachers and the students do to defend people, the environment, health and the planet's energy for the survival of life? "*The future is not to be guessed*," wrote Virginie Raisson in her volume *2033, Atlas of the World's Futures*, in fact, from today the world's future obliges man to re-evaluate his impact on nature in order to improve his condition through awareness and a moral sense. From now until 2030, in many eastern European areas we will see a decrease in the population whereas in the western and southern parts of Europe the population will show a slight increase due to a positive natural balance [2].

Among recent global geographic evolutions, Asia is one of the most predominant, whereas the African situation is the least but has the greatest migratory uncertainty for the near future.

On a world scale, global warming indicates a possible multiplication of immigration of between two and five fold from now until 2050.

Due to the reduced fertility of European women and consequent lack of children, according to data on the demographic balance for the resident population, 534,186 births were registered in 2012, over 12,000 fewer than in 2011. This figure confirms the downward trend which began in 2009: over 42,000 births less in four years (Data Network Istituto Nazionale di Statistica <http://www.istat.it/en/archive/104821> [3]), in 2033 people of working age will no longer represent 61% of the European population, in fact, there will be a drop of 6 percent compared to 2010 [2].

Concerning European social regimes, founded on a balance between taxpayers and beneficiaries, the future looks bleak.

The weight of non-active people will be greater because it falls on those who have a job. Whereas migration from disadvantaged countries, due to climatic and social-political situations, will increase with a worsening of the “Host Countries” Data Network: ISTAT, <http://demo.istat.it/index.html> [3].

Agriculture, animal and social well being, alimentation and diminishing hydro resources have become the challenge of the millennium in order to guarantee life on this planet. It is necessary to create awareness that people’s health passes through that of the earth. Promote both individual and collective awareness through knowledge of intentional change processes by means of ethic actions. Coherent behaviour is imperative if we are to live in an interdependent world. Acquire the capacity of relationship thought in order to understand the systemic nature of the world surrounding us. Understand the relationship between educational themes of subject autonomy development within an eco-systemic, the vision motivating interaction procedure between process-route. Create an environment as a habitat of life, made up of many interacting factors in which naturalistic, anthropology and intercultural elements live together [4].

Educating people to nourish the planet’s energy for the survival of life

1) General background on the topic: Education emergency

- i** Create public awareness that people’s health passes through that of the earth’s.
- ii** Promote both individual and collective awareness behaviour through the knowledge of intentional change processes by means of ethic actions.
- iii** Develop coherent behaviour indispensable to live in an interdependent world.
- iiii** Understand the relationship between educative themes of subject autonomy development within an eco-systemic and the vision motivating interaction procedure between process-route.

iii Educate people to the environment and sustainable development by means of selected themes that motivate children, pre-adolescence, adolescence and their families.

Environmental knowledge comes from educating people on the environment and health through public awareness programmes to:

- 1) Learn to feed and respect the earth
- 2) Promote energy which is conducive to a healthy human existence and a wholesome development;
- 3) Guarantee good health.

L'incipit of the study began in Valle Argentera, country of Sauze of Cesena. The Sauzina community in the procedure-living man-land [5] propose new methods of "nourishment and nourishing oneself".

The pastoralism is understood as the principle of absolutism of the territory "assolutizzazione del territorio". The background is spirituality together as a premise and outcome of faith that emanates from over a thousand years from San Restitutus, the imposing spiritual and cultural fortress in the heart of the Valley [6]. For this population, land is a both material value and universal and is to be defended and cultivated with knowledge and respect. **Taking** care of the area, its air, woods, pastures, **water** and springs, **guarantees** even today the **well being** of the Sauzine atavic families [7]. This small rural community, which characterises itself through tiring and honest daily work in "the high valley," is welcoming with a strong sense of integrity. From here, comes the first indications of "territorial health", with unpolluted water and pastures, where respect for their environment and their efforts to nourish themselves are balanced, thanks to an honest use of resources. Human life, land, water, livestock are one and the same. All products are the result of an intelligent balance.

The traditions of the indigenous people's lifestyle made homogeneous through adaptation to the alpine ecosystem begin to show interesting results. The innovation of this new research about awareness of value of the territory, consists in the education of "good practices" to promote the wheel of life [8].

The good health of this land and its inhabitants is deeply rooted in the links with the earth, its seasons and the faith for cemetery church an element of coagulating interaction for this alpine population. Carl Gustav Jung in 1935, published in Zurich "The archetypes of the collective unconscious", in which he sustains that the archetypes belong to the body, are present in the psychicism and are displayed in individual as well as in the construction of social life that influence [9]. In relation to the Jungian thought, an inborn predisposition in the Sauzina culture is for example the evident sense of "a tormented but joyful life", bereaved of the feeling of melancholy (mélos= black+chol bile, chyó

spill, spread sadness). In Probo's De Natura Hominis, Hypocrates disciple of Coo [10] black bile belonged to one of the four fundamental humors of the body and was considered the cause of sadness. In fact depression is not a characteristic of this valley peoples who maintain the evidence of inherited archetypes that are in relation to the contingency of history and the predisposition of the individual.



Figure 1. The “Wheel of Life” in Sauze di Cesana is a Sign present in the San Restituto (XI century) Church, useful in promoting human “good living”. following figures



Figure 2. San Restituto XI century detail Christening Font, signs of man and woman for the life.

Geographic Area: Valle Argentera (V.A.)

Country of Piedmont, Italy.

Valle Argentera position: Ripa stream basin:

Municipality City:

Sauze di Cesana; Hamlets: Bessen Aut, Bessen Bass, Grangesises, Rollieres- Size Km² 78.52 - Height mt. 1560.

Inhabitant's n.196.

Foreign population:

n. 9 people on 187.

The Romanian is the highest represented nation based on percentage of the total. Data Network ISTAT <http://demo.istat.it/strasa2014/index.html>



Figure 3. Fountain Sauze di Cesana 17th century.

Symbols of Dauphine and Lily of France.

The *Dauphiné* was a French district that included the department of Isère, Drôme and the French-Italian Alpine districts known as Escartons (Cantoni), divided into 5 parts.

- 1) Cantone of Briançon, from Valle Argentera to Saint-Gervais-les-Bains.
- 2) Cantone of Château-Queyras, from Guillestre to Colle delle Traversette.
- 3) Cantone of Oulx, from Cesana to Bardonecchia.
- 4) Cantone of Pragelato, from Colle del Sestriere to Perosa Argentina.
- 5) Cantone of Casteldelfino up to Sampeyre.

Traditions and Costumes

2) The Argentera Valley is very matter for the quality of life.

Sauze of Cesana is an antique rural borough rich in water that has existed since Roman times. It spread out along the Via Franchigena in the mediaeval, a period in which it became a highly populated centre and thanks to its vital elements (abundance water, pastures, woods) guaranteed the survival of livestock from which its inhabitants obtained their wellbeing. This area said Escarton, by écarter, born in 1343 with the name Grande Charte, whose capital Briançon. Geographic Area: Marseille-Piedmont high territory included the Monginevro and Monviso. This area was part of the French Dauphin region [11] a domain sculptured in the cemetery church and fountains. With the 1713 Utrecht [12] treaty, this French part was conceded to Savoia [13]. The main Sauze monument, the San Restituto cemetery church, was built on an antique spring and rose as a site of pagan cult. The development of best old practices of life linked to the Sauze economy springs from the concept inscribed on an antique stone of the San Restituto christening font that has on its lower part the partition of a crowned shell that carries on its upper part engraved ledges. The stone font is dominated by a sculptured wooden hovel bearing two fern leaves, a symbol of the projection of the fulfilment of offspring. In the volume *S. Restituto del Gran Sauze* by Paolo Molteni, on page 24 it is written: "... It must be said that the cemetery represents, even today, a strong reference point, the only one guaranteeing the church that vital flow making it loved and protected [...] Nourishing the Planet, also means communicating the sense of life between "life and the laying out in mother earth" It means that life and the death for the Community of Sauze, are a present concept. Thus meaning the wheel of life. [14]

In this district, there are families of antique stock: Berton, Manzon, Merlin, Prin, Clari, Perracchon, Prin Abeil, Prin Derre [15] .

Environmental elements of Valle Argentera: healthy air, water, land transparent light due to unpolluted air and quality products from the Valle Argentera land. For healthy nourishment: noble milk (pure milk), butter, cheese, honey, local mountain potatoes, and Dauphin potatoes [16] all this thanks to a land particularly hard that is found on rock mountains called "sfaciume" "wrecked".

The flora of Valle Argentera is not treated with pesticides; it is healthy due to the constant territorial defence by the small rural communities, attentive to the ecosystem and the presence of uncontaminated water.

The most common flowers are the following: the *semprevivum montano*, the *stipa pennata*, *arnica montana*, *aquilegia alpina*, *anthericum liliago*, *eritrichium nanum*, *campanula spicata*, the *carlina*, *acanthifolia*, the *cardis nutans*, *echinops sphaerocephalus*, the *nigritella nigra*, the *gentiana criciata*, *lutea e kochian*, the *paradisica liliastrum*, the *verbascum thapsus*, *hepatica nobilis*, the

chrysanthemum alpinum, epilobium angustifolium, the muscari botryoides, asphodelus albus [17], flora that contributes and characterises the taste of “noble milk” throughout the seasons

The dairy products linked to secular traditions are a complex system that takes place in the mountains in summer in the “malghe”

The transformation of milk into butter and cheese forms, such as Plaisentif, so said cheese of the violet, Reblochon, Murianen and Brusc milk, is a primary source of earnings in this alpine economy [18].

Best Practices

3) Defend the Territory

The Declaration on the Environment and Development or Rio Declaration (United Nations publication, Sales No. E. 73.II. A.14 and corrigendum, chap., Data Network <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm> [19], sanctions 27 principles to fulfil forms of sustainable development compatible with the environment. This means they have been adopted as the central theme to carry out 20th Century development plans in this logic that “Nourish the Planet-Energy for the life of Valle Argentera refers, in the sphere of natural and ethical nourishment linked to the territory.

“Nourish the Planet-Energy for the life of Valle Argentera refers, in the sphere of natural nourishment linked to the territory. The quality of the proposals have been consolidated over the centuries, based on the “natural food best practices” in the awareness of innovation of production and breeding techniques by “old malgari”. “Nourish the Planet-Energy for life” in the Sauzina culture, means to “defend the pastures”, respect, nourish and conserve the land, air and water: to teach, “not to pollute” through knowledge of necessary and precious elements for human life.

The quality of the proposals have been consolidated over the centuries, based on the “natural food and best practices” in the awareness of innovation of production and breeding techniques that are non-industrial.

For centuries, animal production dominated the economy and created the landscapes of the Alpine regions. Also in Valle Argentera the rural territory was shaped by livestock activities using pastures and fields rich in water coming from the Ripa river and its tributaries allowing a peculiar habitat, symbolised by animal breeding and agriculture, founded on traditional farming systems able to provide different functions to the local society. The abandoning of farming

significantly reduced the productive function. However, the Alpine regions maintain a rich variety of high quality, typical cheeses, and the use of grass-based diets improves the organoleptic and nutritional properties of milk and its products (Ramanzin e Battaglini, 2012)

1-Nutritional aspects

The small chain dairy industries and the related pastoral farming systems even today represent one of the most satisfying possibilities of human activity preservation in the mountain environment, fundamental for the protection and control of a difficult and complex territory (Battaglini et al. 2014 IJAS).

Studies about cheese quality determined the levels and variability of nutritionally favourable fatty acids (FA) in the traditional cheeses (e.g. Protected Designation of Origin) produced in the alpine areas of Piedmont (NW Italy) (Renna et al. 2014). These cheeses are also produced in the Susa Valley (e.g. Toma del Piemonte) and present amounts of fatty acids of high nutritional interest (e.g. high total CLA, $\omega 3$, low $\omega 6/ \omega 3$ ratio) with positive biological effects of preventing cardiovascular diseases and cancer. This research evidence shows the effects of pastoral farming systems on animal diet and consequently on the presence of these natural molecules in milk and dairy products. Another recent study on milk quality [21] in this territory is the “Noble Milk” project (High quality drinking milk). It has the aim to improve the competitiveness of mountain dairy farms, promoted by Regione Piemonte through the Rural Development Programme 2007-2013. The primary objective was to define the production regulations for drinking milk produced by cows mainly fed with local fresh grass and hay. The experimental trials set up within the project aim at obtaining data on all stages of the production chain, from the characteristics of the forage resources to those of the herds, up to the chemical, microbiological and sensory qualities of milk. The “noble milk” reveals high nutritional value and healthier properties compared with milk available in the Piedmontese retail market. The ratio of polyunsaturated fatty acids of the series $\omega 6$ and $\omega 3$ resulted less than 2 throughout the course of the year, and the concentration of total conjugated linoleic acid (CLA) isomers reaches, in summer, the average value of 1.35 g per 100 grams of fat. Sensory evaluation of milk (untrained panel) and fresh cheese (trained panel) showed that “noble” dairy products are clearly distinguishable and preferred than analogous products purchased (milk) or produced with milk purchased at retail markets (Renna et al., 2015, in press).

PDO CHEESES FROM PIEDMONT (NW ITALY): AMOUNT AND VARIABILITY OF FATTY ACIDS OF NUTRITIONAL INTEREST (by Manuela Renna, Carola Lussiana, Vanda Malfatto, Luca Maria Battaglini).

SUMMARY - The Aim of the study was to determine the levels and variability of nutritionally desirable and detrimental fatty acids (FA) in the Protected Designation of Origin cheeses entirely produced in Piedmont (NW Italy). Six samples for each of the following cheese types were analyzed for dry matter, fat and FA composition: Soft Bra (SB), Soft Bra “*d’alpeggio*” (from alpine pastures, SB-A), Hard Bra (HB), Hard Bra “*d’alpeggio*” (from alpine pastures, HB-A), Castelmagno “*di montagna*” (mountain product, C-M), Castelmagno “*d’alpeggio*” (from alpine pastures, C-A), Murazzano “*di pura pecora*” (made with pure sheep milk, M-S), Murazzano (M), Raschera (R), Raschera “*d’alpeggio*” (from alpine pastures, R-A), Robiola di Roccaverano “*di pura capra*” (made with pure goat milk, RR-G), Robiola di Roccaverano (RR), Toma Piemontese (TP). Data was subjected to a one-way analysis of variance, considering the cheese type as fixed factor.

The considered cheese types greatly varied in terms of amounts have fat and FA of nutritional interest. Total n3 FA ($P \leq 0.001$) and $C_{18:2c9t11}$ ($P \leq 0.001$) varied from 0.41 (SB) to 0.98 (C-A) and from 0.28 (HB-A) to 0.83 (C-A) g 100g⁻¹ fat, respectively. The $\Sigma n6/\Sigma n3$ FA ratio was higher than recommended values in many considered cheese types and ranged from 2.70 (RR) to 7.24 (HB-A) ($P \leq 0.001$). Considering FA data expressed as g 100g⁻¹ edible part (intake levels) and on the basis of the existing knowledge regarding the biological effects of individual FA and groups of FA on cardiovascular diseases (CVD) and cancer, the putative risk raise and prevention for these two pathologies were assessed for each cheese type by computing simplified nutritional indexes. Fatty acids in C-A showed the best balance (low risk raise and high prevention) for both CVD and cancer. Animal diet effects on the obtained results are discussed.

	Toma Piemontese	
	SB	TP
CVD-P, index of putative prevention for cardiovascular diseases	4.60	5.49
C-P, index of putative prevention for cancer	1.16	1.43

2- Ecological and Conservation Aspects

An appropriate pasture management can contribute to soil conservation, differentiating ecological conditions on different soils, thus creating several pasture vegetation types, a unique valuable patrimony in terms of biodiversity and capability to sustain local productions. Pasture biodiversity

has in fact a determinant role in the qualification of animal products, to which confers typical characteristics, related to aromatic compounds, and health-promoting properties linked to the functional substances transferred from the plants ingested by grazing animals. These livestock farming and its dairy production addressed to low input mountain systems. Instruments such as Life Cycle Assessment (LCA), highlight the importance of these farming based on grazing favourable for the maintenance of the fragile and dynamic environmental balance of these areas (Battaglini et al., 2014).

3-Social and Cultural Aspects

Milk production represents one of the most gratifying possibilities of preserving human activity in a mountain environment and it is vital to defend and increase the value of the qualitative properties of the commodities and its by-products, from an economic point of view too [22].

The sustainable use of natural mountain resources and their improvement is an ethic value that must be spread in order to create a “public awareness”, respecting the ecosystem against environmental deterioration that uninformed human presence could create. By a social and cultural point of view the aptitude of farmers to renew farming styles to meet the above requirements; the ability of society to assist them in this process; the capacity of society to describe the Alpine cultural landscapes and value them on the cultural and eco-tourism market.

However, it is necessary considering that this sector differ widely in terms of environmental context, production targets, degree of intensification, and cultural role. The traditional breeding system in the Alps was largely based on the use of meadows and pastures and they produce not only milk and meat, but other fundamental positive externalities and ecosystem services such as genetic resources, water flow regulation, pollination, climate regulation, landscape beauty, recreation and ecotourism, cultural heritage

The loss of traditional breeding competitiveness and “modest” mountain cows have on one hand pushed towards an intensification of livestock productive models in favourable areas and on the other the abandonment of mountain pastures above all in areas where services are scarce and from a tourist point of view are in the “background” [23]. The negative spin-off have been multiple, starting from architectonic identity loss, territory-breeding-product links not to mention vegetation deterioration with adverse effects on animal and vegetable biodiversity.

Alpine environment and land diversity are a patrimony unique to Valle Argentera. It is an important self-sufficient livestock reality that “courageously” breeds dappled and local race animals with a positive spin-off for animal biodiversity: nourishes the planet in that area of land and supplies energy for life.

The territory is characterized by larch-wood forests; perfumed fields, different in every warm month of the year, by the *Ripa river* and its small tributaries making this land particularly fertile, characterizing it with brilliant silvery colours thanks to the purity of the air. Its pastoral activity must be upheld in order to maintain the valley’s extraordinary wealth and safeguard local production.

Valle Argentera is a site of Community interest Site of Community Importance (SIC), Community directive number 43 of 21st March 1992. Council directives concerning preservation of natural and semi-natural habitats of wild flora (plant) and fauna (wildlife) are known as the Habitat Directive.

This site needs sustainable development and safeguarding the values contained in its casket.

Valle Argentera needs to achieve an economic development inherent to the protection of the environment, breeding practices and dairy production.

The atavic Sauzine families are rare and their unwritten knowledge are to be upheld by new human resources who are able to work with great competence and honesty in the field of stock raising and its spin-offs.

Valle Argentera needs social support in order to guarantee human wellbeing, safety and good health.

Valle Argentera also needs environmental support in order to keep its resources integral.

Discussion and in depth research

4) the aims of the project basically say that with this work you aim at showing that the genetic characteristics and the lifestyle of some populations along the Piedmont alpine are specifics.

In recent years, the scientific research carried out by Prof. Emma Rabino and her team, have been addressed to studying the genetic characteristics and lifestyle of some populations along the Piedmont alpine range and in the Valle d’Aosta. In particular, they were aimed at the evaluation of isolation and homogeneity of these peoples.

The historical reconstruction was based on bio demographic parameter identification and correlation. The data obtained permitted the analysis of the structure, biotransformation and microevolution processes, characterizing such a population. In collaboration with the Université de la Méditerranée, the Dauphin Area Project was started. It proposed to reconstruct from a global and

multidisciplinary point of view the anthropologic and genetic history and adaptation to the environment of certain mountain populations, taking into consideration both the French and Italian parts of the Antique Dauphin Area [24]. Feeding behaviour for the studied community was analysed. In fact, anthropology is interested in human feeding behaviour beyond the simplicity of just nourishment it also analyses its social and adaptation roles.

Being that nourishment is a good indicator of environmental adaptation its quantitative and qualitative characteristics and transformation over time in correlation to ageing, were taken into consideration. Finally, with the aim of examining the genetic ageing component, family trees were drawn up in order to evaluate the possible existence of longevity running in the family.

The results of this research showed differences in demographic structure, evolution and ageing of the population under intensive study. It also showed certain affinities such as maintaining the area's traditional nourishment habits; this may be because there is depopulation in the mountains.

Maintaining traditional nourishment may contribute to the telling of history and keeping memory of the past alive. The study results published in a paper at National and International Congresses caused great interest and a favourable reply from the scientific world; this issue has also appeared in International magazines with *impact factor*.

Thanks to their demographic and environmental characteristics, the alpine population represents a valid sample in evaluating the influences of various features such as lifestyle, nourishment on ageing and state of health. This analysis on the functional and genetic characteristics, will aim to evaluate the migratory flow and microevolution in relation to mountain ecosystem adaptations.

In particular, this analysis of some nuclear and mitochondrial DNA polymorphisms will show the position of these populations through individualising the founders' haplotype where the overall picture of peopling in the western Alpine Range and Europe.

5) predictions: development of mountain areas conservation of local farming traditions, development de la production animal, economic and social development with identity of alpine populations.

This study conjugates with the values present and above all, in sport, they are ratified in the Agenda 21 of UNCED [25]. The values of sport therefore conjugate well with the themes present in Expo 2015 [26]:

i Strengthen the quality and assurance of nourishment, this means guaranteeing sufficient food sources to live on and the certainty of eating healthy foods and having clean drinking water.

ii Prevent new and prevalent social illnesses of our times, from obesity to cardiovascular pathologies, tumours to widespread epidemics, increasing the value of practices that may resolve these situations.

iii Innovate through research, technology and the undertaking of the entire nourishment movement to improve the nutritive characteristics of products, their preservation and distribution.

iiii Educate people about a correct way of nourishment that favours new styles of life especially for children, adolescence and the elderly.

iiiii Increase the value of “traditional nourishment” awareness, as cultural and ethnic elements.

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