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The Impact of Food Production on Public Health: Systemic Strategies for a Diffused and Transversal Prevention Plan



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RSD7 - Relating Systems Thinking And Design 7

Turin October 24-26 . 2018

The real costs of our daily food







Already widely investigated not just in the Design Sector.



Analyzed with **superficiality**, especially if we consider...



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HEALTH COSTS

Burdensome and prolonged over time for most individuals.



HEALTH RISKS

- Cancer
- Diabetes and Obesity
- Neurodegenerative Diseases
- Genetic Repercussions
- Fetal Taratogenesis
- Reproductive Malfunctions



Division of two extremely connected concepts



QUALITY of the Food Production Process



Individual STATE OF HEALTH





REDUCED POSSIBILITY TO CHOOSE (Primary selection of foods made by organised large-scale distribution system).

IT IS WORTH MAKING A COMPARISON...



Getting sick for it is a **CHOICE**.



NOBODY SHOULD GET SICK FOR IT. Why has current food become so dangerous to our health?

STAGES OF THE LINEAR FOOD PRODUCTION PROCESS





SYSTEMIC DESIGN

Tool for reading and analysing linear agri-food supply chains

PHASES OF ADMINISTRATION OF **CHEMICAL TOXIC POLLUTANTS** INSIDE THE AGRI-FOOD PRODUCTION CHAIN



CHRONIC CHEMICAL EXPOSURE





ADI - ACCEPTABLE DAILY INTAKE Legitimated quantity of pollutant to be ingested daily without apparent impact on the body.

Reference: Robin, M.M. (2012) *II veleno nel piatto. I rischi mortali nascosti in quello che mangiamo.* Feltrinelli Editore.



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Failure of ADI (Acceptable Daily Intake) and NOEL (No Observed Effect Level).

mg/Kg

ADI

а

Reference: Robin, M.M. (2012) Il veleno nel piatto. I rischi mortali nascosti in quello che mangiamo. FeltrinellI Editore.

This is the responsible of an "**epidemic**" that can also disrupt the health of future generations.

World Health Organization (WHO)

DISEASES AND DISORDERS RELATED TO INDUSTRIAL FOOD PRODUCTION



- Cancer

- Diabetes and obesity
- Neurodegenerative diseases
 - Cardiovascular diseases
 - Behavioral disorders
 - Fetal taratogenesis
- Reproductive malfunctions

GROWTH OF TRANSGENERATIONAL EFFECTS





SUSTAINABLE DEVELOPMENT IN THE HEALTH SECTOR:

A CHANGE OF PARADIGM IN THE MANAGEMENT OF CURRENT PUBLIC HEALTH



...TO THE DEFENSE OF THE HEALTH OF FUTURE GENERATIONS

On the basis of that assumption, **SYSTEMIC DESIGN** CAN LEAD TO **BEHAVIORAL CHANGE**







Medical Specialist

Guidance / Interaction / Collaboration "Prevention rather than treatment"



Medical Specialist

Guidance / Interaction / Collaboration "Prevention rather than treatment"

3 Starting Points

- Consideration of the **link between diseases** | **nutrition** | **food production.**

- Evaluation of the individual's **eating habits.**

- Identification of the human body as an interconnected system.

Medical Specialist

Guidance / Interaction / Collaboration

"Prevention rather than treatment"



3 Starting Points

- Consideration of the link between diseases | nutrition | food production.

- Evaluation of the individual's **eating habits.**

- Identification of the human body as an interconnected system.

Guidance to:

- **Conscious purchase** and a genuine tasty food preparation.

- Knowledge of food properties.

- Resize and **prevent** disorders and diseases **through food**

Food Producer

Production Monitoring from seed to sale.

"Clean food without pollutants"



Food Producer

Production Monitoring from seed to sale.

"Clean food without pollutants"



3 Starting Points

- **Production without chemical inputs**, which follows the **seasonality** of the products.

- **Adoption** of **recognized labels** and **certifications** that guide, orient and reassure consumers.

- **Distribution on a small scale** and for pre-established periods to avoid the use of preservatives.

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Enhancement of the production

- Rediscovery and enhancement of varieties with high nutritive power.

- Preference to the cultivation of local varieties.

- Indication of products suitable for certain recipes.

People

Awareness / Involvement / Interaction

"Good health through good food"



People

Awareness / Involvement / Interaction

"Good health through good food"



Knowledge

- Information on the **adverse effects** of **highly processed food** and **chemical contaminants** used during production.

- Recognition and correct **perception of food risk.**

- **Conscious purchase** guide through the **ability to read** and **recognize labels** and certifications.

People

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"Good health through good food"



Knowledge

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Application and participation

- Workshops, cooking and self-production courses in health facilities, farms, city districts.

- Incline towards simple, little processed, organic foods.

- Willingness to pay a higher price for healthier food.



Case studies Design-Food-Healthcare

Examples of existing categories

CATEGORY 1

Finding local food products and meeting direct producers.

An example:



L'alveare che dice si! Mangiar bene, mangiar giusto.

- Recovery of local and artisanal products.
- Direct comparison with food producers.
- Purchasing online, through app or website.

Users

Who want to put aside the product of large retailers, seeking the link with the territory and a quality product.

CATEGORY 2

Guidance to a conscious choice of food.

An example:



NaturMia Il cibo come natura insegna

- Categorization of food products by season.
- Descriptive sheets about **nutritional values, composition, ingredients**, etc.
- Advice for the preparation of seasonal recipes

Users

Who wants to improve their purchasing choices for a healthier and more sustainable diet.

CATEGORY 3

Interaction between patients, medical figures, food-producers and chefs for the prevention of the diseases.

An example:



The "Diana 5 Project" and the healthy cooking courses with the cancer patients

Dr. Franco Berrino Fondazione IRCCS "Istituto Nazionale dei Tumori" (INT)

- **Direct comparison** between the project actors.
- Use of **food** products characterized by **high properties and benefits**.
- Seasonal and organic products recovered from local farms.
- Food education of the patient, through his **involvement in the production process** of the daily meal.
- Generating a higher level of awareness.

Users

Cancer patients or individuals with chronic diseases who want to reduce their problems and prevent their deterioration.

NEED FOR A DOUBLE REVOLUTION





NEED FOR A DOUBLE REVOLUTION





Re-Design of the overall system





Thank you for attention



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