

Performant Relations Between Public And Private Sectors, Government, Communities And Media Imply E-Societal Management. A Synthetic Point Of View

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1. Introduction

1.1. The present societies (e.g. countries) are dynamic and complex dynamic socio-economic systems (SESc) due to e.g.: (i) the accelerated technologic and technical progress, (ii) the aggressions on the environment (e.g. pollution, growing consumption of non-renewable natural non-biological resources and over-consumption of the biological natural resources i.e. exceeding their automatic reproduction capacity).Life implies metabolism; reproduction and finite lifecycles and other automatic processes such as trofic chains, genetic adaptation and also attack or defend individual il or species. Cosmos transmits on Terra radiant energy (cycles) and asteroids (stochastic impacts). Terra provides other cycles (e.g. air, water, climate) and impacts (e.g. seismic stochastic eruptions) and also land, underground or submarine deposits and underground thermal water. Terra also protects life (e.g. magnetic field and ozone layer).

1.2. It follows that mankind is supported by rather many layered automatic cyclic processes and also impacts. It has the capacity to identify the environment, to understand via models validated by experience, to communicate and produce artefacts. They can organize and manage their education and activities (including building civilization, science, production and servicing artefacts (including domestic animals, cultivated vegetables, improving their results). Production of artefacts generated trade and economy, first using high value metals before coins and paper money, banking etc. They can also damage the supporting layers e.g. by over-consumption and pollution. They have also the ownership instinct, which may generate fight or war. They also organized specialized communities. Since ~ 70 years they produced nuclear mass destruction weapons; They posses also the need for information.

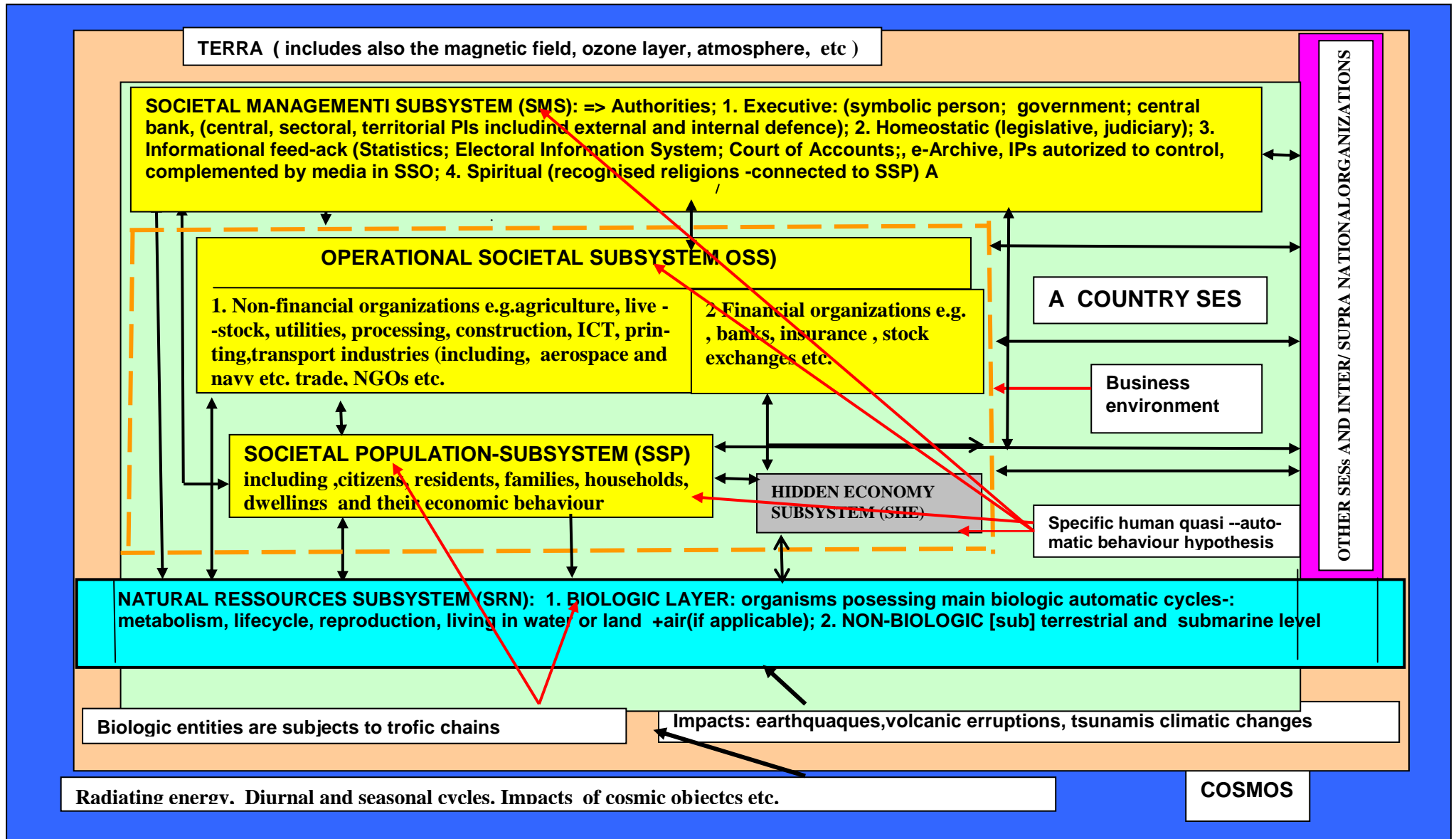
1.3 Public and private sectors, governments, communities and media are some components of the complex SEScs), This is why the first proposition is to discuss the SESC's high level functional structure because performant relations imply a generally accepted qualitative comprehensive full model (not only some aspects,. because of the high interlinking). Some examples in Romania can be found [e.g. Costake and Zahan, 2010]. The SESC model is followed by a post-Maslow quasi - invariant economic behaviour hypothesis, because it should be have in mind in some governance processes.

1.4 The high complexity implies access to a great volume of coherent information (to permit interoperability=> one step e-public services). The main final objective is a stepwise building ICT supported SESC governance assisting software. A proposition concerning the Information system of the e- SM (e-SMIS) also accessible to the private sector is sketched. So is also a sketched proposition for first phases of a starting planning.

2. The High Level Model Of The Complex Socio-Economic System (SESc)

2.1 The SESC's model is a slight improvement from [Costake, 2014] and presented in fig.2.F.1 (next page). This proposition has in mind a more precise structure with detailed linkage and basic processes; this implies building a large mathematical model.

FIG.2. F.1: A VERY HIGH LEVEL MODEL OF THE COMPLEX SOCIO-ECONOMIC SYSTEM (SES) (PI: Public Institution)



Comment: the links are physical (e.g. material, information, financial flows etc.) and logical (e.g. ownership of, creditor to, debtor to, relative to, etc).

They generate a complex set of open (e.g. underground extraction) and closed circuits (transactions, processing, markets etc.)

2.2 The functional model above contains following enhancement to the classic Montesquieu model: the number of the subsystems is enlarged by:

- (i) The cyclic and impact inputs from Cosmos and Terra over the natural resources (biological and non-biological) and the humanity with its artefacts;
- (ii) SSO is divided in non-financial and financial organizations;
- (iii) The SMS is organized in Authorities:
 - (1) Executive: (symbolic person (king, or elected or dictator); central, sectorial and local governments, central bank;
 - (2) Homeostatic (parliament; legislative; justice (courts, prosecutor's offices, etc);
 - (3) Feedback (statistic institute, court of accounts, state's archive);
 and their subordinated organizations.
The organization and functioning of the SSSc should be defined by the parliament and approved by referendum.
- (4) Spiritual.
- (iv) The SHE is a possible toxic subsystem which should be minimized if not eradicated.

2.3 Fig.1 suggests two categories of relations: (i) physical and logical and (ii) public and private; (full national, mixed, foreign) ownership), which amplifies the complexity. This suggests the use of the system engineering [INCOSE, 2006, 2014] methodology in societal management projects.

2.4 The human quasi-invariant economic behavior as a new post-Maslow hypothesis is explained in fig 2F2 below.

FIG. 2 F 2 - A POST MASLOW HYPOTHESIS FOR A QUASI INVARIANT HUMAN NEEDS AND TYPE OF ACTIONS

No	Hierarchy of human needs						Approx. level of wealth or access to resources	Attitude against work	Attitude against law
	Parallel			Consecration					
8		Political Power	Economic Power				Extreme high	Y, C, D*), E	L1, L2
7	Religious Power			Science, technology *) technique*)			Very high	Y, C, D*), E	L1, L2
6					Literature & other arts *)	Culture and /or education*)	High	Y, Z, C	L2
Serial type needs									
5	Esteem, publicity, charities**)						Comfortable	Z, C	L2
4	House, car, tourism, socialization including professional and / or politics						Medium	Z, B	L2
3	Access to public services education, health, public utilities, (communications, electricity, drink water garbage collection etc.), second hand or family car						Decent	Y, A	L2
2	Drinkwater, food, , shelter, clothing, bike assured						Poor	X	L3
1	Basic: water , food, clothes [improvised] shelter						Very poor	X	L3, L4

*) May refers to institutions, not necessary to persons (who can realize their consecration with minimal personal resources)
 **) May represent a limit reaching satisfaction (status quo)
 Legend to work; X: poorly paid drudgery; Y: work is a normal need [Mc Gregor]; Z: supporting the employer [Ouchi];
 A: creative work better paid; B: serious work and learning; C: sufficient; D: speculation or politics

are better E: financial; maximal company rewards. Legend for Law: L1: influence; L2: respect L3: cannot be followed L4: possible unknown

2.4. The public and private sectors are concentrated in SSP, OSS and SHE. The government is a component of the SMS and must follow the laws adopted by the parliament. It seems to better consider: (i) business environment (e.g. SHE could be a serious disturbance) and (ii) the objectives and restrictions in the Constitution, which it is a vital component of the societal management. There are many points of view or improve the societal management, very few examples are: a) USA adopted open public information [e.g.Obama, 2013]; b) EU adopted the interoperability [EIF, 2010] and the [Digital Agenda,2010], c) annual global risks reports are provided e.g. by [WEF, 2015] d) [Rockstroem, e.a.,2003] reported on environment aggression e) [Pauna, Saman 2013] worked on modular statistical macroeconomic model,[Stiglitz, 2012] proposed actions on inequalities; f) [Johnson and Jacob, 2012] proposed a new socio-economic theory, g) UN, 2015 is interested also in sustainable development; h) [Geggel, 2014] add proofs about the nearing earth's extinction. One conclusion is the need of the management of very complex systems

2.5. One can notice that the management of organizations is not sufficient for the societal management. Fig.2.F.3 (below) presents the differences.

FIG.2.F.3. - DIFFERENCES BETWEEN ORGANIZATIONAL AND SOCIETAL MANAGEMENT (BRIEF ILLUSTRATION)

Criterion	Management of organizations		Societal management (proposed)
	Enterprises and similar	Public institutions	
Key objectives	Economic and financial performance (priority for profit)	Services for SES and / or population and / or private or public organizations	(i) economic growth; (ii), jobs; (iii) development of the civilization, protection for future generations; (v) export values > import values; (vi) minimization till eradication of the hidden economy
Customers	Target potential customers (from population or organizations)	All persons and all organizations affected by specific legislation	The whole population and all organizations within the SES (or for export
Financing	Sale of products and services, subscriptions, capital investments, state subventions, external credits	State budget or tariffs services or self-financing agreed by the state	Definition and collection of, taxes, excises, fines, etc. ,national and international credits, revenues from state owned enterprises and other state properties, also .revenues from public-private partnerships i
Effects of erroneous decisions	Restricted to share or stakeholders, suppliers or customers	Direct or indirect (propagated) consequences on population and / or on businesses affected	May generate very high losses even at SES level (e.g. lost armed or economic war). In most cases the losses are cleared by taxpayers

3. A Sketch For The Proposed High Level Architecture Of The E-Smis

3.1 The proposed e-SMIS is based on (i) a coherent information kernel (CIK)- see fig, 3.F.1, hosted on a shared large memory which is hosting also the room for design, testing, and releasing applications and also the room for running e-services; (ii) a shared secure electronic communications infrastructure which is connected to user public institutions (The system administration hosts also the access management for connecting the private sector.(including a procedure for generating information from individual data, in order that the statistical confidentiality is protected.

3.2 The full e-SMIS is sketched on fig. 3.F.2. It is compatible with the interoperability and one-step users servicing requirements and can be an instrument for minimizing bureaucracy and hidden economy. It is also an unique contact point for international official interoperability, provided using same content metadata. A first consequence is the organization and functioning of the public institutions, connected to CIK (see fig. 3.F.3.)

3.3 A Romanian assessment of the cost-benefit resulting from interoperability for an 10 years horizon 1s: 1 EUR pay => ~ 2,5 EUR benefit

3.4 Fig. 3.F.4 sketches the first planning activities.

FIG. 3.F.1 - A PROPOSED HIGH LEVEL ARCHITECTURE OF THE COHERENT INFORMATION KERNEL (CIK)

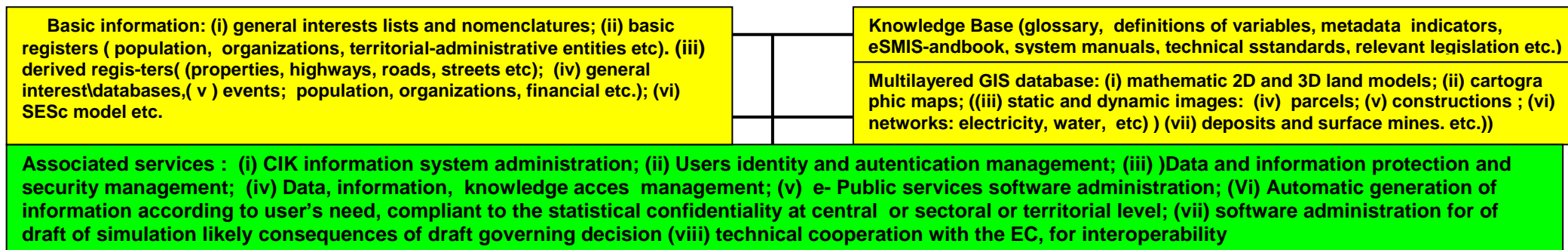
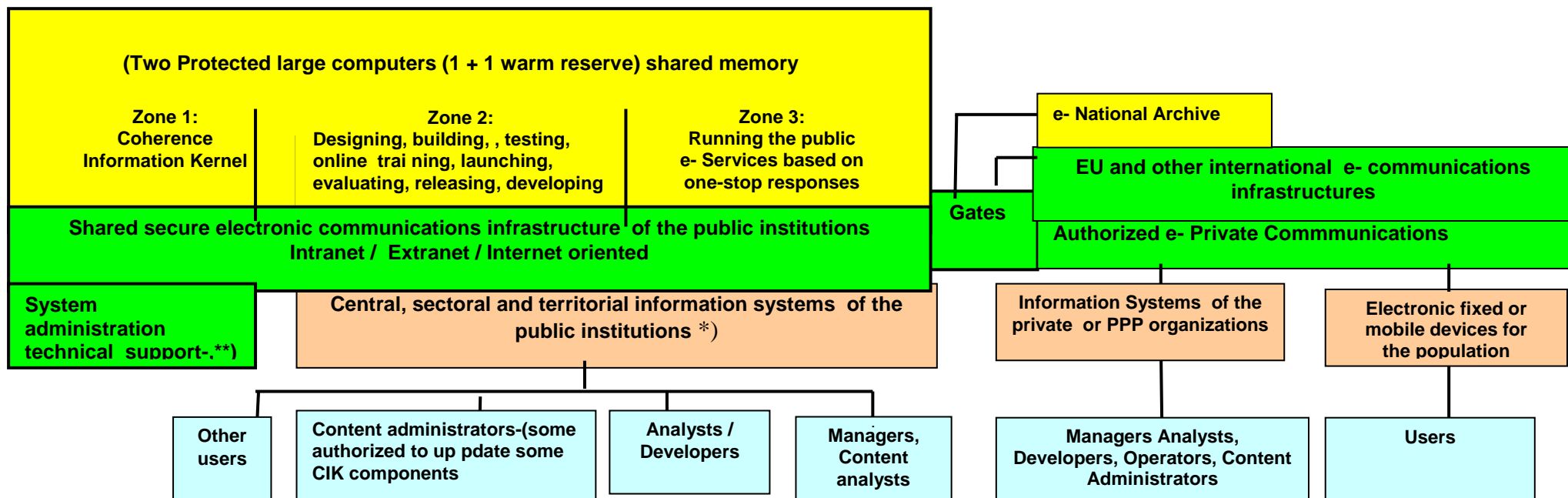


FIG.3 F.2- AN OVERVIEW OF THE e-SMIS (VERY HIGH LEVEL ARCHITECTURE MODEL)



*) apart using the CIK, can administrate some CIK components and may develop specific own databases, but using the metadata and the CIK knowledge base

***) responsibility of the supplying companies;

FIG.3.F.3 - THE ORGANIZATION OF THE PUBLIC INSTITUTIONS ADAPTED TO e-SMIS

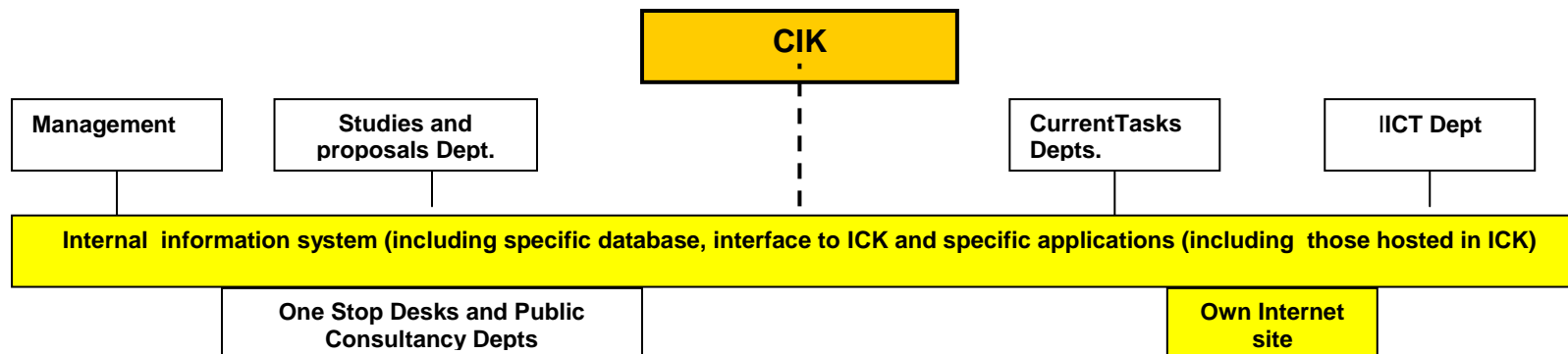


FIG.3.F.4 - A PRELIMINARY START OF THE POSSIBLE PLANNING

No	Precedent	Activities	Comments
		Initial activities	
1	NA	Organize a Task Group and add glossary for important terms	
2	1	Add relevant international and national approaches also academic points of view and risks, issues and obstacles	UN, EU, Club of Rome, CPTM, Australia, Canada, China, Japan, UK, USA
3	2	Elaborate strategic planning	ICMCI decides the publishing
		Basic theoretical SES models (using system engineering)	
4	1,2	Basic (i) natural, socio-economic and financial entities and links and (ii) socio-economic and financial processes models (iii) usual societal mismanagement (iv) first version of mathematical SES	
		e-SMIS prototypes and first applications	
5	4	Virtuous and vicious circuits and loops in SESc and identify priorities	
6	5	Design, testing and release first applications and Report	E.g. electoral and selecting SM managers information systems

4. Conclusions and Suggestions For ICMCI

4.1 Conclusions:

- a) The analysis of the two sectors, government, communities and media is a sample, which ignores e.g. the business environment, (including the possibility of nominating incompetent high ranked managers, the hidden economy, the possible bureaucracy etc.);
- b) Complex socio-economic system's management cannot be performant if there is no holistic strategy;
- c) Management of organizations is not sufficient for countries (societal management).

4.2 Suggestions;

- a) Management Science should be structured in:
 - (i) General management principles and possible mismanagement
 - (ii) Organization's management
 - (iii) Country's management (societal management) => e-SM could be promoted by ICMCI
 - (iv) Supranational management (in the future)
 - (v) Global management (in a longer future)
- b) Promotion of the Coherent Information Kernel and incorporate system engineering methodology

5. A Sample Of References

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