



2nd IWA Leading-Edge Conference & Exhibition on
Strategic Asset Management

Models of regional or municipal Public-Private Partnership (PPP) in order to favour the industrialization of the Integrated Water Service in the ATO's of Southern Italy

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LESAM 2007 – Lisbon 17-19 October 2007

State of the art of the integrated water service in Southern Italy/1

- The enforcement of the national regulation reforming the organization of civil water service (the so called "Galli" law of 1994, now replaced by the legislative decree 152/2006), albeit in an advanced state of completion, is experiencing in the South of Italy, more than elsewhere in the country, difficulties and delays.



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State of the art of the integrated water service in Southern Italy/2

According to "Galli" law (1994 – now updated in the Legislative Decree 152/06):

- municipalities gather in consortia (ATOs: optimal territorial ambits) whose boundaries are defined by the Region;
- ATOs develop a plan defining targets to be achieved in the integrated (i.e. Water supply, sewerage and wastewater treatment) water service in a long horizon of 20-30 years



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State of the art of the integrated water service in Southern Italy/3

- The plan includes the investments to be undertaken in the planning period to achieve the planned service targets;
- The plan defines a pattern for the tariff over the planning horizon - tariff must cover the planned investments (mortgages and capital gains) and the O&M costs and its dynamics is subject to the price cap (the gains of the utility are implicitly included in the above mechanism).
- The service is entrusted to a company. The company is in charge to achieve the planned targets by carrying out the investments;
- The utility can be either **i)** a private company selected via tender or **ii)** a public-private partnership (the private partner being selected via tender) or **iii)** a so called municipality-owned "in-house" company.



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State of the art of the integrated water service in Southern Italy/4

- While most of southern Italian ATOs (1 in Apulia, 1 in Basilicata, 5 in Calabria, 4 in Campania, 1 in Molise, 1 in Sardinia, 9 in Sicily) have successfully gone through the planning stage, considerable difficulties arose and are now arising in the entrustment of the service;
- The service has been entrusted in ATOs where previous region or state-owned bodies existed; in the other cases only four ambits in Sicily have been entrusted via tender; anyway the process is still in progress;
- In southern Italy, the bulk water service and the urban water service are frequently kept separated, with bulk water service being operated by either public (state or region-owned) or public-private companies (e.g. Siciliacque SpA in Sicily);
- Regions have undertaken measures to foster the process by supporting a) investments and/or b) tariffs.

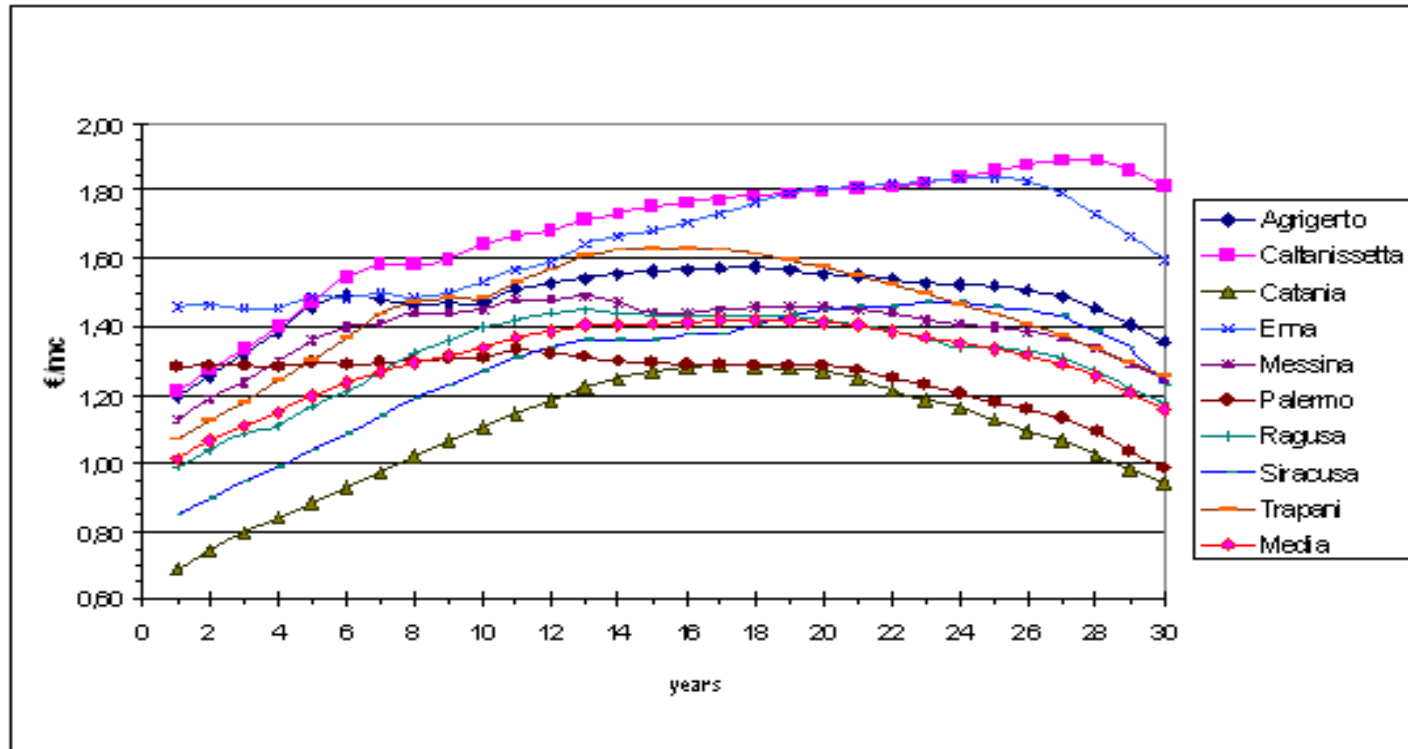


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Expected evolution of average tariffs in the Sicilian ATOs (as an example) over the planning horizon/1

- Planned investments in the nine Sicilian ATOs and in the Siciliacque SpA investment plan = 6,400 M€ (34% is planned in 5 years, 58% in 10 years);
- Since the beginning of the process (2001), the investment have received by the Region a **financial strong support**;
- 153 M€ grants (national and communitarian) allocated in the bulk water sector to carry out nine high-priority strategic projects on some of the large aqueducts;
- Attempts of the regional government **to reduce and equalize tariffs** by directly paying the costs of all those desalting plants exceeding the bulk water tariff (now: 0.59 €/m³).
- The regional government has also started its plan of financial support to the ATOs based on CSF (Communitarian and national) funds 2000-2006 - 1,105 M€, to cover a consisting part of the financial demand for the projects to be completed in the ATOs in the first years of operation (around 2,032 M€).

Expected evolution of average tariffs in the Sicilian ATOs over the planning horizon/2



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Is supporting investments a good idea in the start-up phase of the IWS? / 1

The governmental support to increase the grants for investments has lowered the expected tariff level, but **has not necessarily contributed to enhance the financial performances of the ATOs Plans** and in some instances has even caused them **to worsen**.

Why?



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Is supporting investments a good idea in the start-up phase of the IWS? / 1

- The Normalized method (*Metodo Normalizzato*) – the standard procedure for assessing the average tariff and its evolution according to Galli law - is based on a point-zero tariff evaluated on the basis of the existing tariffs. The evolution of the tariff is constrained in the first years of operation by a price cap.
- If the existing tariffs do not reflect the actual costs of service, as it is the case in many southern-italian contextes, the “new” average tariff may not be able to even cover operation costs, even when the impact of investments on the tariff is (or is kept) very low.



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Is supporting investments a good idea in the start-up phase of the IWS?/2

- In spite of legislation, municipalities have often decided not to adjust tariffs (because unpopular) to costs (at least operational ones) that have been rather left to weigh on the municipality's budget;
- The main assumption of the normalized method, i.e the financial balance of service, is thus frequently violated.



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Is supporting investments a good idea in the start-up phase of the IWS? / 3

	<i>Agrigento</i>	<i>Caltanissetta</i>	Catania	Enna	Messina	Palermo	Ragusa	Siracusa	Trapani
Equity	68,5	48,8	145,5	25,7	117,0	148,1	44,0	52,2	71,1
Loan	159,7	113,8	339,4	60,0	273,0	345,5	102,7	121,7	165,8
Maximum short term debt	14,301	50,808	0	13,382	19,271	0	5,738	930	11,694
Short term debt in 30 th year	0	34,485	0	0	0	0	0	0	0
Residual value of the investment in 30 th year	42,5	46,2	140,9	32,7	139,2	89,8	51,8	88,5	66,7
IRR	2.51%	0.69%	4.01%	3.81%	2.69%	3.55%	3.89%	3.94%	3.22%
DSCR minimum (years 1- 20)	0.11	-1.89	0,1	0,05	0,06	0,10	0,09	0,10	0,05
DSCR mean (years 1- 20)	1.29	0.45	2.15	1.50	0,08	2.03	2.00	2.09	0,11
DSCR maximum (years 1- 20)	2.05	1.28	2.37	2.13	0,11	2.20	3.10	2.21	2.22
First year of positive net result	6	12	2	4	2	5	3	4	7



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Is supporting investments a good idea in the start-up phase of the IWS? / 4

- The Sicilian government has decided in year 2004 to support tariffs (costs) in the ATOs of Agrigento and Caltanissetta by 51.2 M€.
- As an exercise, if this sum had been used to support investments for 12 years in Caltanissetta and 6 yrs in Agrigento. This would produce:
 - A reduction of tariff from year six on of only 0.05 €/m³ for Agrigento and 0.14 €/m³ for Caltanissetta (also starting in the 6th year)....
 - ...but also a reduction of the IRR from 2.51% to 2.49% for Agrigento and from 0.69%to 0.05 (Caltanissetta)
 - The other performance indicators also worsen.

...maybe supporting operation costs is a better option

- Instead, so as the Regional Administration has done, supporting Agrigento and Caltanissetta's operation costs by 51.2 M€ in the first six years of operation produces an overall improvement of the plan performances:
 - an increase of the IRR from 0.69% to 3.77% (Caltanissetta) and from 2.51% to 3.40% (Agrigento);
 - an increase of the average DCSR from 0.45 to 1.94 (Caltanissetta) and from 1.29 to 1.72 (Agrigento);
 - a shift in the first year of positive results from year 12 to year 4 (Caltanissetta) and from year 7 to year 5 (Agrigento).



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Other critical factors hindering the industrialization process of the IWS

- The amount of the planned investments is usually very high → high borrowings demanded to potential investors;
- In the plans, investments usually have a high residual value: the possibility of recovering it as redemption is quite far-fetched → banks are reluctant to lend money;
- Overall, potential private investors are requested to undertake, all at their expenses, considerable financial risk against little returns and long recovery times. The high capital intensity and the very long depreciation schedule of physical assets contribute to increase the investment-related risk and make the whole venture highly hazardous.



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How to strengthen the startup phase of IWS in the southern in Italy? It is possible to face up the critical described difficulties?

- In order to obtain the targeted quality level of the IWS also in the regions of southern Italy, it seems necessary to redistribute risks between public and private granting at the mean time a fair reallocation of governance responsibilities.
- This may be attained by new forms of PPP that may give rise to organizational structure that can prove suitable to cope with the long transition phase towards the new IWS.



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Sharing risk between public and private sector as a means to favour the industrialization of the ISW – the ppps in the southern Italian context/1

- Some elements of the context: The existing assets constitute highly interconnected, multipurpose water resources systems with conflicting uses (civil, irrigation, industrial and, last but not least, ecological), large carryover reservoirs and different bodies that operate service within each different sector (ATOs for civil service, the Reclamation Bodies for irrigation, other bodies for industrial uses).
- In addition to seasonal reduction of water availability, such systems are now with increasing frequency experiencing long dry periods when the supply/demand ratio often reduces to the sustainability limit.



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The ppps in the southern Italian context/2

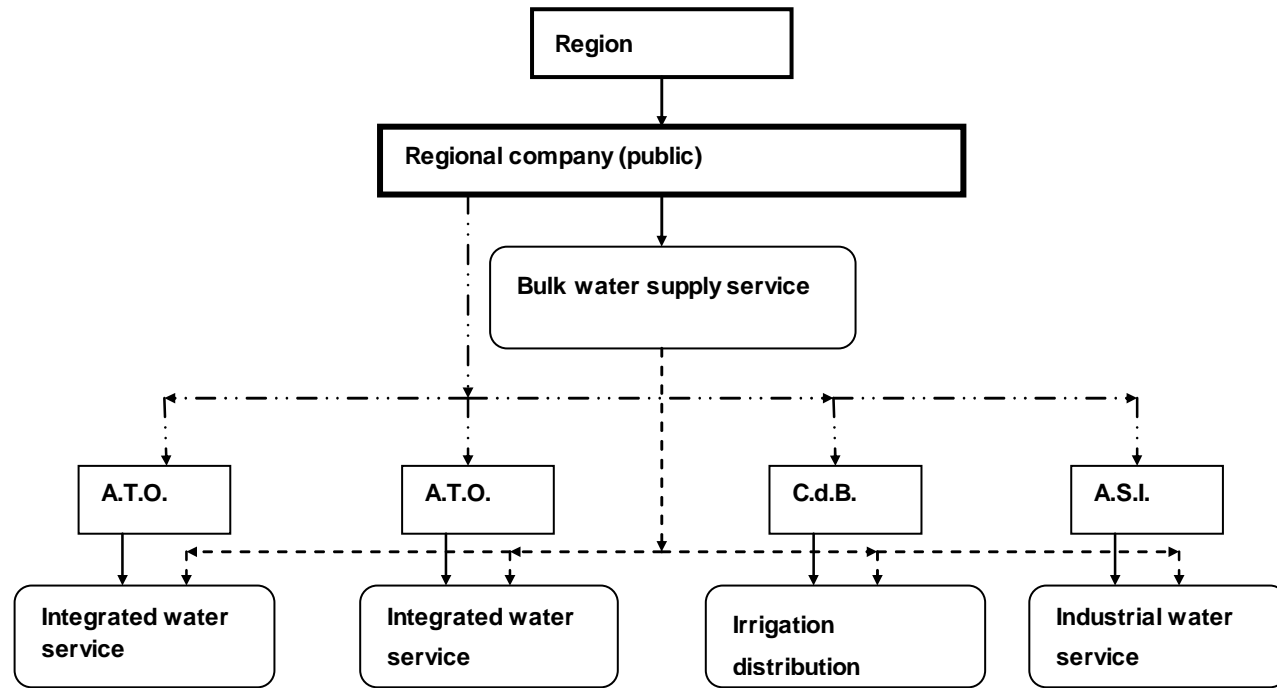
Touching only one piece of the puzzle (e.g. reforming only the urban water sector, even under public support), without reforming the whole system is likely to make any market-oriented action ineffective.

- Bulk water sector PPP scheme: **regional or multiregional company**;
- ATOs PPP scheme: **the “large” network company**.



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A new public private organizational framework for multipurpose water service at regional (or multiregional) scale – the scheme

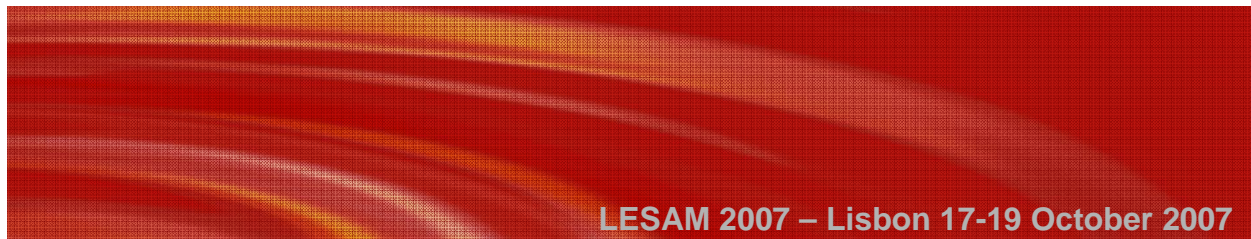


Legend

- > Institutional commitment
- - - - -> Institutional control
- - - - -> Water supply
- A.T.O. = Optimal Territorial Ambit
- C.d.B. = Reclamation Bodies Body
- A.S.I. = Industrial Development Area



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A new public private organizational framework multipurpose water service at regional (or multiregional) scale – the tasks/1

THE REGION

- Regulates water resources (either directly or via a related Authority)

THE COMPANY

- Plans water uses;
- Identifies, assesses the feasibility of, and optimizes projects for the completion and rationalization of water resources systems;
- Regulates and manages water demand for conflicting uses by defining bulk water tariffs;
- Entrusts the operation of bulk water service



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A new public private organizational framework for multipurpose water service at regional (or multiregional) scale – the tasks/2

- The company is also the medium for aids to irrigated agriculture and for managing grants for infrastructures in that sector;
- Technical management of the assets should be awarded through competitive procedures to private contractors on the basis of short-term contracts (5-10 years);
- Investments for the improvement/rationalization of the assets are managed directly by the company, using project financing where possible and by contracting out through tenders;
- Such a scheme separates at a regional scale policy-making and control from asset management and operation and therefore discourages ambiguousness in roles and should contribute to the minimization of the impact of possible failures.
- It also allows a more suitable allocation of costs and to define tariff frames that are able to include all types of costs, including, in particular, the environmental ones (Directive 2000/60/CE).



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – opportunities for municipalities in order to give value to their assets

At **the lower level of the Ambits**, the opportunity for an alternative PPP model comes from article 35 of Italian Financial Law for the year 2002 that has decreed the obligation for public bodies to hand over their assets (networks and plants) to, i.e. 100% public-owned companies (so called network companies), if the ambit authority opts for the entrustment of service to a private contractor or to public-private companies.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – the models

- a) A “minimal” network company, in which only the assets indicated by the regulation should merge and is only in charge to administrate them;
- b) A “large” network company to be regarded as an asset management company for the public bodies holding it (and planning investments for them) in which further assets can be merged.

In this last scenario, the company carries out the projects and entrusts operations to an industrial company via tenders. The rent paid by the private contractor to the network company must not only finance the company expenses, but must also pay back capital and interests on loans or other types of obligations for investments; → shorter time periods of license, say five or ten years.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – advantages and cautions/1

- The proposed ATOs PPP model allows:
 - Reduction of financial risks for contractors in the long start-up phase;
 - Depreciation times are made independent on the length of the concession;
 - Easier conditions for having projects financed by banks.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – advantages and cautions/2

The network companies call for **high public control skills** in order to reduce costs related to the complexity of the system and to avoid that a public company becomes the source of inefficiency for the whole system, thus repeating models that have not had a secondary role in determining the present level of inefficiency of the system of water services in southern Italy.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – advantages and cautions/3

- One of the most important effects of the proposed schemes is the improvement of the conditions for financing projects;
- A public asset society that is really able to inspire confidence in the credit system may reduce the debt of water service operators, improve their debt/equity ratio, obtain credit at lower rates or pre-amortization periods or longer periods for the amortization of debts, etc;
- This may result in lower rates for customers while improving the operative performances.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – an exercise/1

Basic assumptions:

- Two hypothetical network companies in two sicilian ATOs, Agrigento and Trapani;
- The financial model of the PdA predicts an unbalance for six years with an average annual net deficits after taxes of 5.3 M€ in the Agrigento ATO and an unbalance for 7 years with an average annual net deficits after taxes of 3.4 M€ in the Trapani ATO.
- Two cases are examined, an “Intermediate” and “Complete”

Parameters	Base case from PdA	Intermediate	Complete
Asset remuneration rates	7.00%	6.60%	6.60%
Amortizations	Adapted to the concession period (30 years) (fix asset life = 40 years)	Intermediate time (fix asset life = 50 years)	Long time (fix asset life = 100 years)



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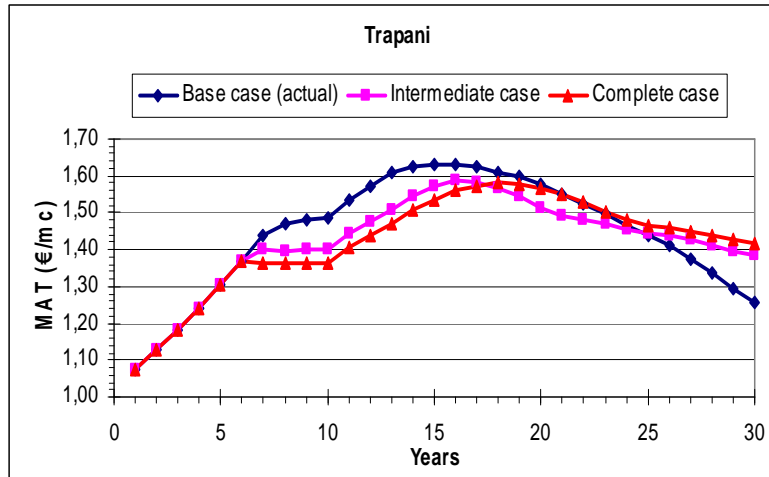
A new public-private organizational framework for multipurpose water service at the scale of the ambit – an exercise/2

- in both cases the PPP company (the “large” network company) funds the difference between operation costs and returns in the first years;
- to do this the company raises a loan to be paid back by the returns from rates at the following fixed conditions: 4.5% as total annual interest rate, 15 years amortization with four years of preamortization;
- no modification is assumed for the financing of the planned investments.



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A new public-private organizational framework for multipurpose water service at the scale of the ambit – an exercise/3



IRR	Agrigento	Trapani
Base case (actual)	2.51%	3.22%
Intermediate case	2.88%	3.43%
Complete case	3.04%	3.57%

Customer savings (M€)	first 10 years		30 years	
	Agrigento	Trapani	Agrigento	Trapani
Intermediate case	2.111	6.840	2.161	17.674
Complete case	4.962	10.488	6.704	20.943



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