



S.D.I.S 13



Citizens and cities facing new hazards and threats

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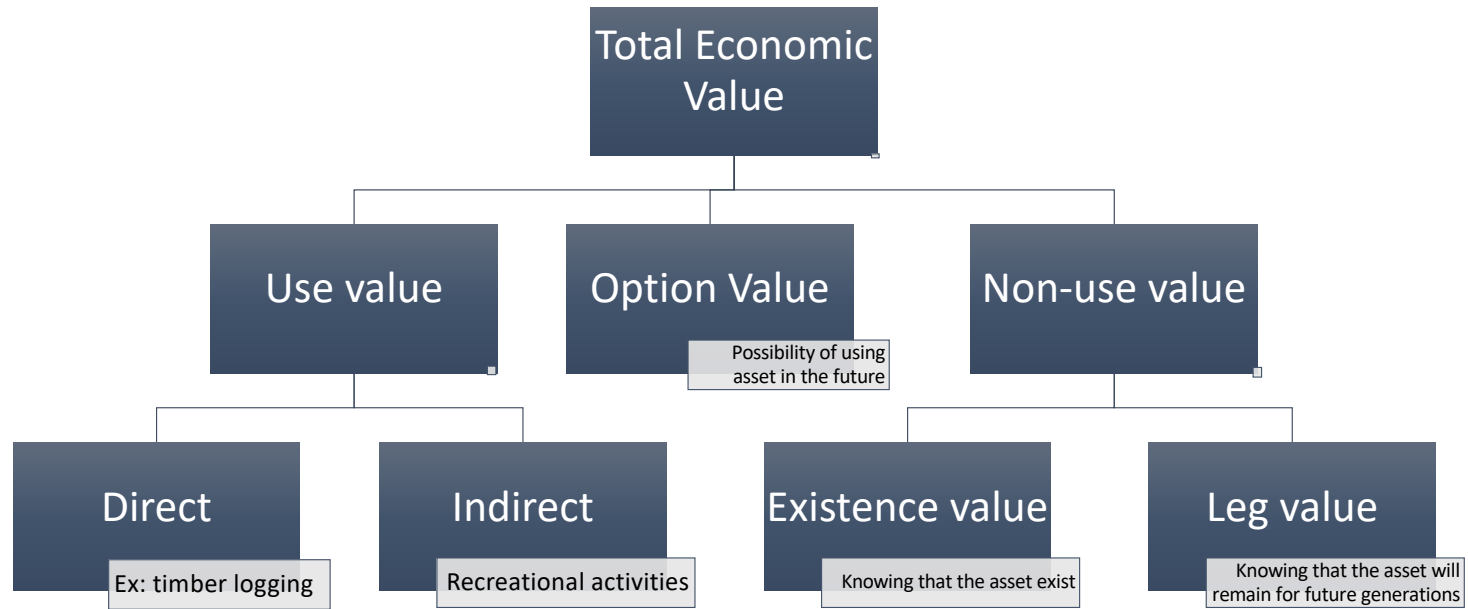
Session 10 : Value for money: economic view on emergency services, how protection produces value - Forest case

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Context

- With the advent of management reforms in public bodies within the framework of new public management, attention has been accentuated on the question of the legitimacy and profitability of public bodies.
- To this end, there are three main tools implemented:
 - Placing of operational indicators
 - Placing of corporate projects
 - Studies on the economic value of the saved
- We try to answer to : **How much do the Fire department save in terms of value during forest fire fighting ?**

The values of the forest



Methodology: How to evaluate a non-market good?

Using the following solutions:

Method of revealed preferences: costs avoided + costs of displacement

Method of declared preferences (used in our model to evaluate certain goods and services provided by forests)

The elements that can be evaluated

Price per hectare and the value of the wood

The tourist and recreational value

The costs of rehabilitation

The value of the CO2 sequestered

The existence value, option value and leg value

Methodology

Value of the saved = value of wood + value of CO2 sequestered + value of buildings + value of hunting and other forest products + tourism value + value of existence, option and leg

Régions	Densité m3/ha Feuillus (bois vivant sur pied)	Densité m3/ha Résineux (bois vivant sur pied)	Surface boisée km2	Densité m3/ha (bois vivant sur pied)	Densité m3/ha (bois mort sur pied)	Densité m3/ha (bois mort au sol)	Valeur touristique en € par visite	Valeur de la chasse et autres produits forestiers en €/ha
Ile de France	158	17,5	2744	175	5,35	12,5	10,78	13,89
Centre Val de Loire	147,5	41,5	8887	189	4,25	11,45	10,78	13,89
Bourgogne Franche Comté	155	63,5	16351	219	5,25	17,15	55,3	13,89
Normandie	160	41,5	3922	200	2,35	5,6	24,04	13,89
Hauts de France	167	18	3899	185	3,4	7,6	24,04	13,89
Grand Est	149	66	18113	215	5,95	24,5	55,3	13,89
Pays de la Loire	113,5	61	3137	174	5,2	8,5	24,04	13,89
Bretagne	126	78,5	3234	205	8,7	14,35	24,04	13,89
Nouvelle Aquitaine	83,5	64	27343	147	5,5	17,25	10,78	13,89
Occitane	84	64	21911	148	8,25	11,9	33,55	13,89
Auvergne-Rhône-Alpes	88	136,5	22189	225	10,45	22,8	17,65	13,89
Provence-Alpes-Côte d'Azur	29	62,5	13417	91	5,55	9,6	20,37	13,89
Corse	66	162	4003	151	3,5	17,5	20,37	13,89

Department of BDRFD

- 243 hectares of average area saved and 23 individual houses saved on average by fire in 2017

Saved value = **7 298 343,82 €**

- 202 interventions on forest fires in 2017

202 x 7 298 343,82 € = 1 474 265 451,64 €

Limits of the model and Conclusion

- The study resorts to the use of averages and hypothesis that can vary from what are the real values
- Each forest fire, according to the dynamics and circumstances, can be more or less dangerous and therefore the general model proposed may not be representative
- The value given to the forest can change from individual to individual so the numerical parameters could be more or less representative depending on the analyser

Applying the model, to monographic studies or to a larger scale, provides an estimate of the total economic value. However, as in previous Sdis studies on the value of the saved, the model has certain limitations. In particular, given that a number of assumptions had to be made for reasons of simplification, the model gives a value of the saved which is underestimated because different elements (such as fauna, value of the mitigation of changes climatic conditions of the forest, etc.) are not taken into account.