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Risk management in the new post-2020 CAP:

Public national mutual fund

against catastrophic adversity

METEOCAT FUND

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Summary

Introduction

The strategy of risk management in agriculture is, to date, considered one of the main policy instruments for the protection of the incomes of agricultural producers affected by adverse weather conditions, natural disasters, plant diseases and pest infestations, also taking on an effective role in combating the phenomena of price volatility and consequent income losses.

Given the geographical location and the most recent meteorological and climatic changes, a large part of the Italian territory appears, among other things, to be increasingly exposed to the risk of natural disasters. The Italian case, due to its peculiarities, is also the subject of a study in progress entitled "*Building agricultural resilience to natural disasters*" coordinated by MiPAAF[1] in cooperation with OECD and FAO.

The best public policies are those that are best able to limit the effects of these territorial impacts and with marked temporal discontinuity. In this sense, the contribution of private actors active in the insurance and financial markets may be important, but the choice of catastrophic risk allocation remains a purely political issue, also considering that in all eligible solutions the residual risk remains the responsibility of the community.

Even the insurance and re-insurance market shows a clear difficulty in taking on these risks and the increase in premiums resulting from the greater frequency and severity of damage is such that coverage is now incompatible with the spending capacity of large sections of the population.

Suffice it to think, as detailed in the document, that considering the 600 million euros of average CAT damage (2014-2018) the insurance system has compensated less than 10% of national needs and more than 90% in Northern Italy.

The urgent need to strengthen the risk management system and update its architecture is therefore not only confirmed by the progressive increase in the intensity and frequency of catastrophic events but is also increasingly felt by farmers who in the recent ISMEA survey in 63% of cases expressed their support for a change in the current system of financing from public resources, while around 34% would leave the current system unchanged.

This document illustrates an evolutionary proposal of the Risk Management System (SGR) in Italy that, starting from the evidence of the critical issues mentioned above, aims to allow farms to equip themselves with resilience tools, environmental and economic, that rest on both pillars of the CAP in an integrated way, while increasing the culture of protection from weather and climate risks (in particular frost, drought and flood) through the mandatory mutualistic tool combined with subsidized insurance coverage.

[1] Ministry of Agricultural, Forestry and Food Policies.

1. Catastrophic risks in Italy due to drought, frost and flooding

1.1 The impact on the agricultural sector from 2010 to 2018

- Catastrophic Adversity (CAT) - drought, frost and flooding - are those events characterised by low frequency and high damage intensity.
- However, the extreme nature of certain climatic events and the increasing frequency of extreme ones are having an increasingly significant impact on the national economic system and the resilience of businesses, with repercussions especially on agricultural businesses, which are more exposed than others to adverse weather and climate phenomena.
- Based on the CAT data reported in the Regional Declarations accepted by MiPAAF, it should be noted that, between 2010 and 2018, the economic loss resulting from these three events was particularly significant, with shares equal to 97.7% and 97.6% of total economic losses in 2014 and 2017, respectively, and with an average incidence over the entire period (2010-2018) of more than 50%;
- The "Olympic average" (2014-2018) of insurance compensation for catastrophic insurance damage amounts to approximately 56 million euros, while the amount of catastrophic damage inferred from regional declaratory awards is over 430 million euros. Therefore, if both "items" are taken into account, a total of 486 million euros is reached, which, gross of the unsuccessful declaratory actions, can be estimated up to 600 million euros.
- Analysing the territorial impact of CAT damage for the period 2010-2018 (Figure 1), a composite picture emerges that highlights some situations of greater incidence without, however, showing significant differences at the level of geographical macro-repartitions.

Table 1 Agricultural economic loss from CAT insurance data, historical series 2010-2018

Events	Flood	Frosts	Drought	Total CAT
2010	62.541	7.388.627	5.657.587	**13.108.755**
2011	138.373	19.228.556	50.257.001	**69.623.930**
2012	22.617	160.054.140	143.142.246	**303.219.002**
2013	579.172	14.044.325	10.317.155	**24.940.652**
2014	1.133.911	29.353.165	946.658	**31.433.734**
2015	462.385	18.050.915	20.631.926	**39.145.226**
2016	227.578	91.718.314	5.170.928	**97.116.820**
2017	2.024.148	329.744.475	61.994.519	**393.763.141**
2018	374.313	25.983.353	2.765.452	**29.123.118**
Olympic average 2014-2018				**55.898.593**

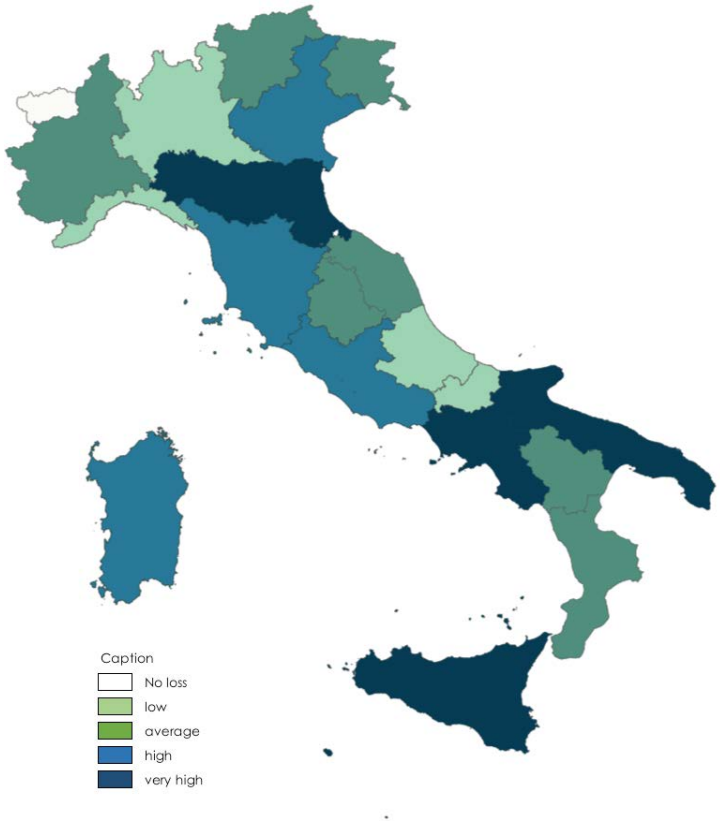
Source: Italy and CAP post 2020 - Policy Brief 4 OS 4: Contributing to climate change mitigation and adaptation and sustainable energy development, MiPAAF 2019.

Table 2 Agricultural economic loss from CAT data NSF (National Solidarity Fund), historical series 2010-2018

Events	Flood	Frosts	Drought	total CAT
2010				**0**
2011				**0**
2012			2.602.383.999	**2.602.383.999**
2013				**0**
2014	402.182.198			**402.182.198**
2015	67.603.943		1.152.000	**68.755.943**
2016				
2017		1.119.125.126	3.859.287.769	**4.978.412.895**
2018	365.981.259	453.512.662		**819.493.921**
Olympic average 2014-2018				**430.144.021**

Source: Italy and CAP post 2020 - Policy Brief 4 OS 4: Contributing to climate change mitigation and adaptation and sustainable energy development, MiPAAF 2019.

Figure 1 Agricultural economic loss from CAT insurance and NSF data, historical series 2010-2018



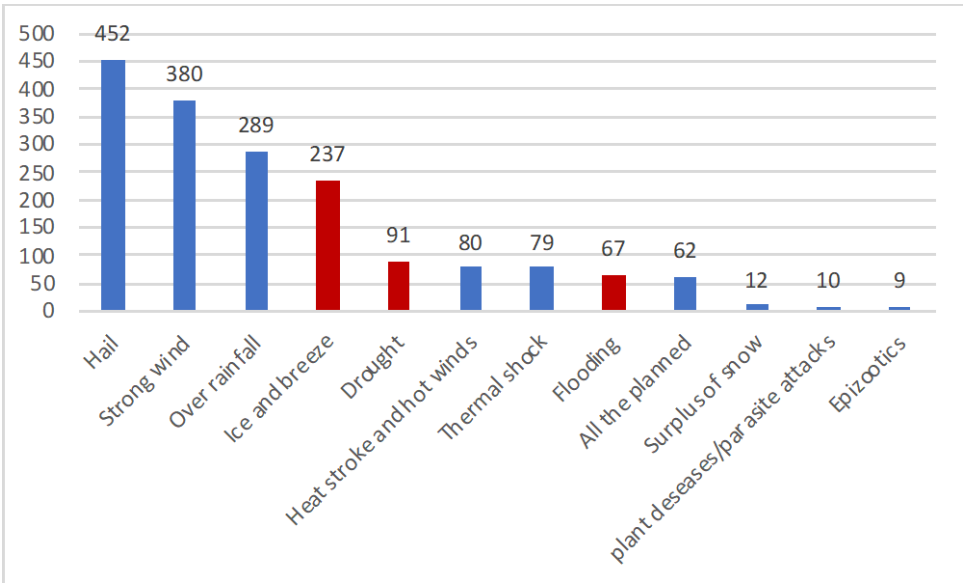
Source: Italy and CAP post 2020 - Policy Brief 4 OS 4: Contributing to climate change mitigation and adaptation and sustainable energy development, MiPAAF 2019.

1.2 Some ISMEA panel survey results on insured hardships

A survey carried out on a stratified sample of 500 large insured farms shows that the weather and climate adversities most covered by insurance policies are hail (25.6% of responses), strong wind (21.5%) and excess rain (16.3%).
Frost and hoarfrost, drought and floods in the insured adversity ranking are in fourth, fifth and eighth position, respectively, cumulating 22.3% of responses, confirming a still reduced propensity to cover CAT risks even in the most structured companies with more experience in the use of risk management tools.

Figure 2 - Which adversities does your company (or has it insured in the past) insure (one or more answers)?

(in number of responses)

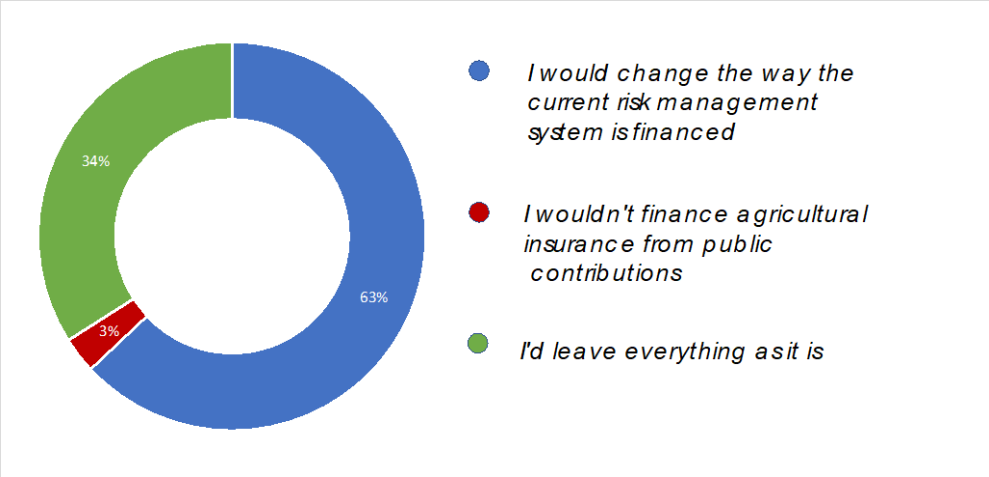


Source: Risk management in the perception of large insured farms, ISMEA 2019.

The same survey also gathered the views of respondents on the topic of future risk management strategies in agriculture. In this regard, 63% of the respondents were in favour of a change in the current way of financing through public resources. Another 34% would leave the current system unchanged, while only 3% would abandon the system of public contributions in favour of agricultural insurance without the EAFRD contribution.

Figure 3 - If you were the public resource manager, which of the following choices would you make?

(in % of total answers)

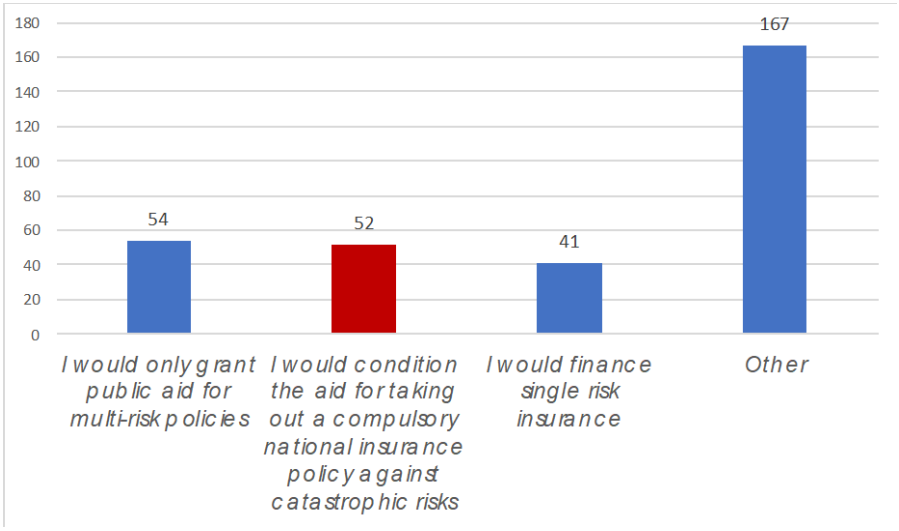


Source: Risk management in the perception of large insured farms, ISMEA 2019.

Of the approximately two thirds of respondents in favour of change, 16% would condition the aid to the underwriting of a compulsory national insurance policy against catastrophic risks, while 17% would grant public contributions only for multi-risk policies, i.e. against all adverse weather conditions that can be insured to date.

Figure 4 - What would it change?

(in number of responses)

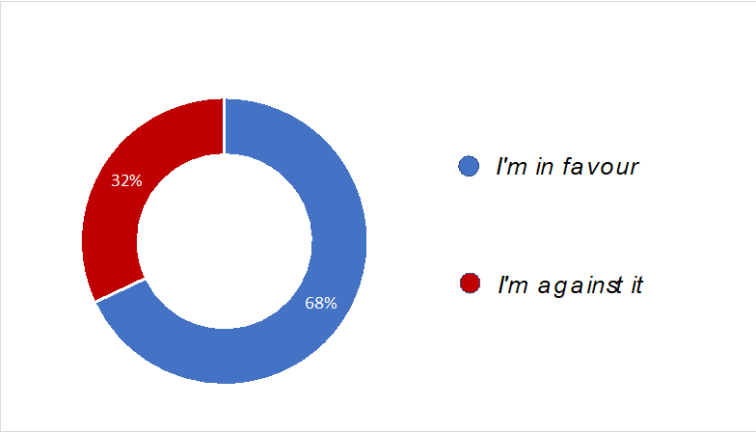


Source: Risk management in the perception of large insured farms, ISMEA 2019.

Another 13%, on the other hand, was in favour of extending the system of subsidised insurance to single risk cover.
With regard to the hypothesis of allocating a share of CAP payments to compulsory cover against catastrophic events in favour of all farms, more than two thirds in favour of the proposal to make the levy on CAP funds compulsory and only 32% against.

Figure 5 - How do you assess the hypothesis of allocating a minimum share of CAP payments to a mandatory CAT adversity coverage for all beneficiaries?

(in %, net of non-response)



Source: Risk management in the perception of large insured farms, ISMEA 2019.

This shows the sensitivity and interest of farmers in covering up these types of adversity.

1.3 Catastrophic risk hedging instruments and responses available to date

In Italy, a more effective and modern risk management strategy was launched with the approval of Legislative Decree no. 102 of 2004, in order to ensure not only the coverage of traditional frequency risks, such as hail, but also that of catastrophic risks, the importance of which, as mentioned above, is increasing considerably due to climate change (see par. 1.1).

Historically, this has been done mainly through *ex-post interventions* financed by the National Solidarity Fund (NSF)[2] under which support measures and credit interventions can be approved in case of exceptional events and natural disasters affecting annual gross saleable production for no less than 30% of ordinary production. In the course of its evolution, the national risk management system has gradually shifted from an *ex-post* compensatory approach to an *ex ante* approach based on support for insurance policy underwriting, with an increasing capacity to cover risks in terms of companies involved and insured values.

Under the *ex-ante* instruments, the EAFRD will, from 2014, finance, through measure 17 of the 2014-2020 NRDP on risk management in agriculture, three intervention instruments: subsidised agricultural insurance

[2] As per Legislative Decree no. 102/2004 ss.mm.ii..

policies (submeasure 17.1), mutual funds to cover climatic, plant health and animal disease risks (submeasure 17.2) and the sectoral STI, the income stabilisation instrument (submeasure 17.3).

Nevertheless, the current structure of risk management tools highlights some critical elements:

- the market for subsidised policies is strongly exposed to the phenomenon of ***adverse selection*** (**9% of companies are** insured**, 8.3% of the UAA and 18.7% of the PLV**);
- the insurance instrument is **limited** only to an audience of **62,000 farms** (9% of the total), is **territorially** and **structurally asymmetrical** and **limited** in **CAT** coverage **(20,000 farms)**
- the subsidised agricultural insurance market absorbs, with CAT policies, public resources (contributions on the premium) which are **sometimes higher than the compensation** paid to holdings for such events (see Table 1);
- In the **regions of Southern Italy, only 1,300 companies** are insured against CAT risks, **6.5% of the total,** compared to a total participation of the South in the facilitated insurance market of 7.7%;
- the incidence of multi-risk policies fell from **27% in 2014** to **18% in 2018,** while the related costs increased over the same period **from 11%** to **13%.**
- **Considering the 600 million euros** of CAT damage (2014-2018) the insurance system has compensated less than **10%** of national needs and more than **90% in Northern Italy.**

2. Proposal to strengthen the risk management system with the activation of a **National Mutual Fund** in the strategic framework of the CAP post-2020

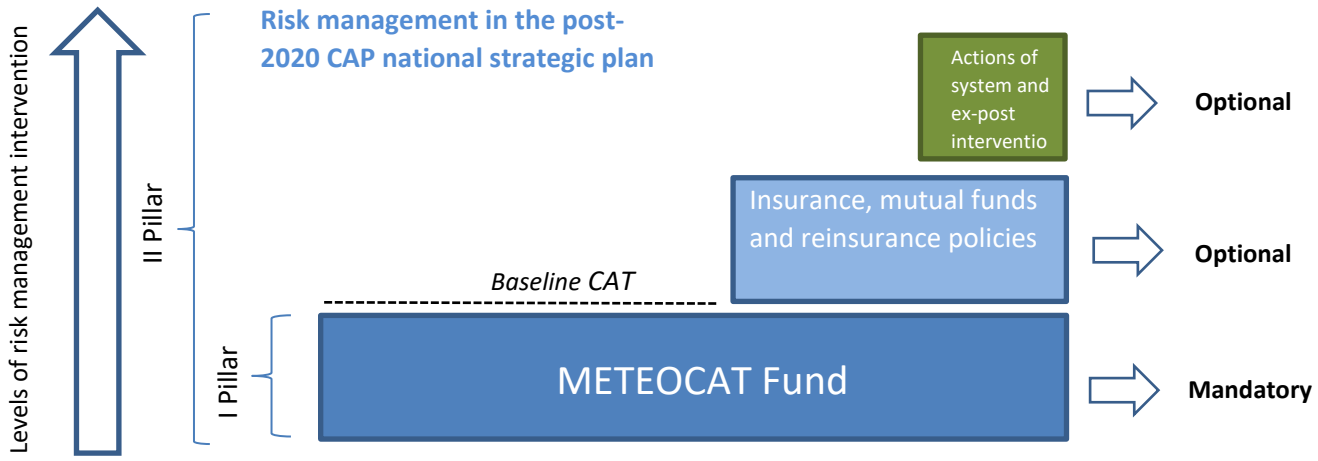
The current insurance/reinsurance model as structured denotes some limits in the intervention capacity and potential compensation to farms with specific reference to catastrophic risk coverage.

In addition, it should be noted that in the implementation of sub-measure 17.1 of the NRDP, the participation of the Regions of Southern and Central Italy still appears to be very limited, highlighting significant territorial imbalances in the distribution of both public contributions and compensation for damages CAT.

Therefore, in view of the new strategy of the CAP post-2020, an updated set up of risk management tools is proposed, based on a 3-level pyramid approach:

- **Level 1**: "basic" national mutualistic coverage against CAT risks for all farms in the first and second pillar: METEOCAT FUND;
- **Level 2**: Voluntary insurance and mutual insurance cover against frequency/accessory risks and supplementary CAT policies "beyond the CAT *baseline*" in the second pillar;
- **Level 3**: Systemic actions with prevention, business advice & innovation on risk management and enhancement of ex-post interventions in the second pillar (current Measures 2, 5, 8 and 16).

Figure 6 - The new strategic architecture of risk management in agriculture



The major new element of this new strategic architecture is the establishment of a METEOCAT National Mutual Fund against catastrophic adversity in agriculture, at the service of all national farms, the details of which are explained in chapter 3 below.

3. The National MeteoCAT Fund

- **Who's it for?**

  The Fund is aimed at the entire range of national farms with an active farm dossier at AGEA and the regional paying agencies receiving funding under the first pillar of the CAP.

- **What risks does it cover?**

  The Fund's coverage refers to all the catastrophic risks (drought, frost and flooding) provided for in the MiPAAF Agricultural Risk Management Plan.

- **What are the obligations of the members?**

  Each member company will have to pay to the Fund an annual share of mutualistic coverage, for which public co-financing (EU and state resources) will be activated.
  Small farmers will be exempted from paying the annual coverage fee.

- **What is the cost of participating in the Fund?**

  The participation in the fund is divided into a private share, borne by the farms, of 30% and a public share of 70%, in accordance with EU regulations.

- **What are the contractual conditions?**

  The occurrence of the CAT event will entitle the Fund's members to submit a claim report which, following an expert appraisal, may result in the payment of compensation commensurate with the loss within the limits of the Fund's financial capacity, if the damage exceeds 20% of the farmer's historical average production threshold.

- **Who is in charge of managing the Fund?**

  The Fund will be managed by the MiPAAF through a public body in close coordination with a board made up of representatives of the Regions and Autonomous Provinces, professional agricultural organizations, the cooperative system, the Condifesa (farmers' defence consortium), insurance companies, managers of the other funds.

Assuming that at least 50% of the annual average historical CAT damage is covered, the Fund will have to provide itself with annual funding as follows:

- Approximately **€100 million of private share** by farmer members (all national farms) representing 30% of the mutualistic coverage (on average **€8.4 €/Ha**),
- Approximately **€217 million of** "activated" **public contribution** equal to 70% of the mutualistic coverage (EU funds and national co-financing),
- Based on estimates of CAT damage to Italian agriculture for the period 2012-2018, the **average annual compensation** rate would be **over €25/Ha**.

4. Simulations of the distribution of compensation following agricultural economic loss due to natural disasters

- The maps refer to events that took place at regional level between 2013 and 2018;
- The first map shows the compensation (from NSF and insurance companies) and the second map shows the hypothetical situation of the distribution of compensation if a METEOCAT Fund had operated in addition to the compensatory insurance policies;
- The main evidence is that if a Mutualisation Fund were to operate in addition to compensatory insurance policies, there would be a fairer redistribution of compensation, which would also compensate the regions of the Mezzogiorno.

Figure 7 "Status quo" CAT Compensation

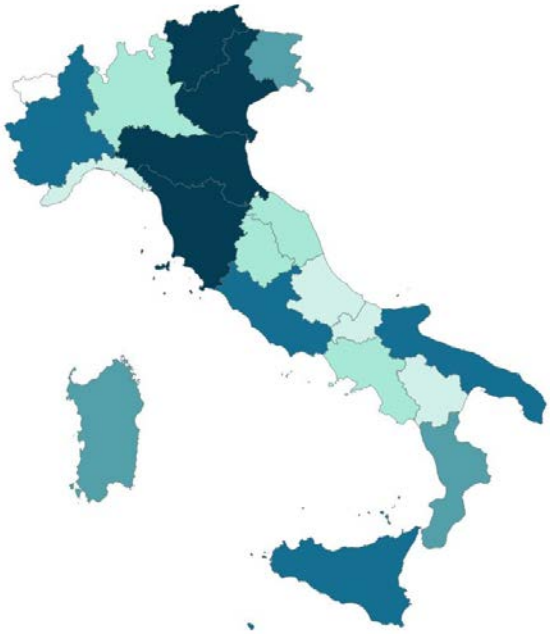
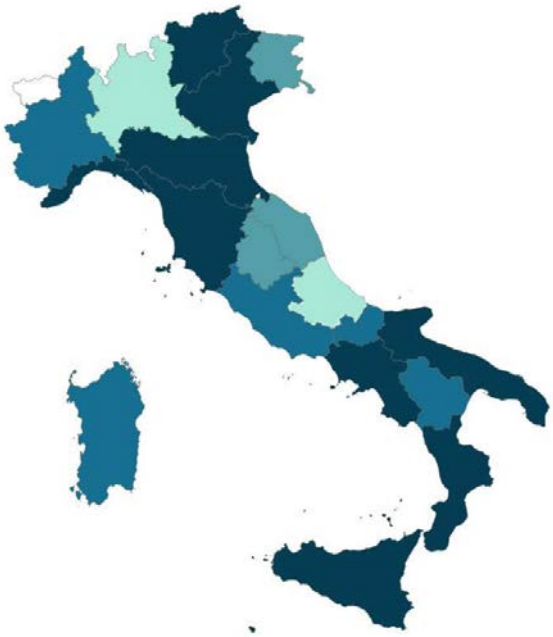


Figure 8 CAT Compensation with METEOCAT Fund activation



Source: ISMEA elaborations on MiPAAF and DB Compagnie Assicurazioni e Assicurative data

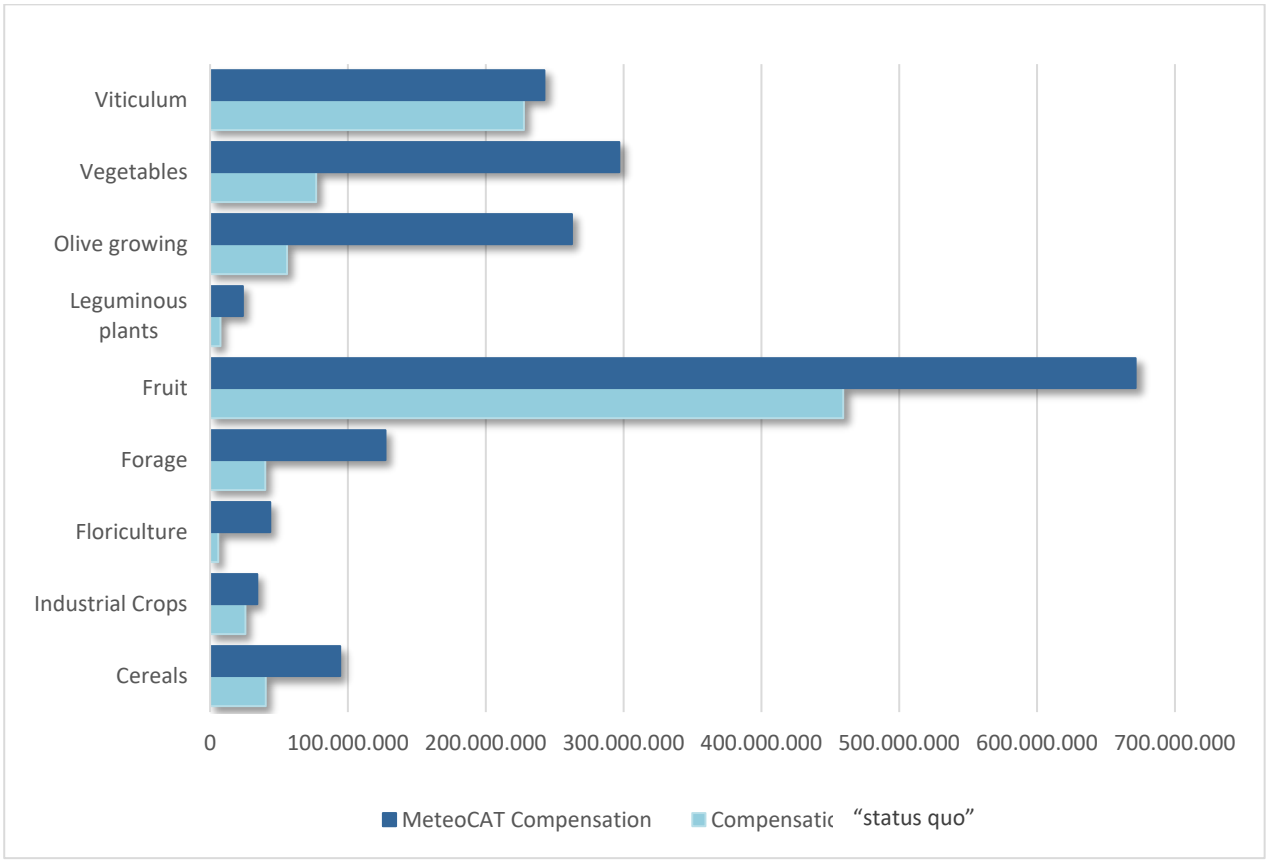
How to read maps:

Colour intensity increases as compensation increases

In absolute terms, the value of compensation increases for all regions in the transition from the first scenario (Figure 7) to the second (Figure 8).

- Figure 9 compares compensation levels by production sector. The main evidence is that if the METEOCAT Fund had operated in the period 2013-2018, there would have been higher compensation in each production sector.
- The compensation paid by NSF and the insurance companies is on average lower than if it had operated a Mutualisation Fund in addition to the compensatory insurance policies.

Figure 9 Comparison between "status quo" CAT compensation and with MeteoCAT Fund activation, by sub-fund.*



**For the NSF compensation that for the MeteoCAT Fund, corrections calculated on the basis of insurance compensation have been used*

Source: ISMEA elaborations on MiPAAF and DB Compagnie Assicurazionie Assicurative data