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**How can different stakeholders contribute to rural landscape planning policy? The case study of Pralormo municipality (Italy)**

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13 **Abstract**

14 In rural landscapes, historical values and traditional crops are in conflict with recent commercial

15 demand and social needs. For sustainable development, it is essential to find a methodology

16 able to conjugate cultural and historical values with socio-economic trends. In order to identify

17 shared actions, strategies and policies for the management of rural historical site, an integrated

18 empirical work was developed. The main goal was to understand how to promote a bottom-up

19 planning approach, including stakeholder perceptions in policy actions and planning strategies

20 for historical rural landscapes. Pralormo municipality (Piedmont, north-west Italy) was chosen

21 as case study. We developed a methodological framework to understand if the participatory

22 approach can contribute to landscape planning from the local to the regional level. Field

23 observations, landscape and historical analysis, farmers' interviews and two focus group

24 meetings were performed. This study shows that complex socio-cultural and economic drivers

25 affect the future of the studied rural area. The assessment of land use scenarios can play an

26 important role in promoting the understanding of such uncertain systems. Shared actions,

27 strategies and policies were identified for the planning of rural historical site. In the case of

28 Pralormo, which is transferrable to other European historical rural areas, we promoted the

29 adoption of a new local landscape planning strategy with positive fall-out on the regional scale.

30 Linking food and landscape quality, preserving ancient settlement, maintaining traditional land

31 uses and promoting educational activities in farm are considered the most important issues for

32 sustainable development.

33

34 **Keywords**: historical rural landscape, focus group meetings, interviews, farmers, landscape

35 scenarios

## 1. Introduction

Rural landscapes are characterised by dynamic and continuous changes (Antrop, 2005). They are the result of a continuous land re-organisation to adapt their use and spatial structure to the changing of economic and social demands. According to Sandker et al. (2010), rural landscapes are considered as mosaics of land cover types providing ecosystem services and developing opportunities for the multiple needs of diverse stakeholders. In Europe since the 1950s the different rural systems have been evolving in two opposite directions: intensification and monoculture *versus* marginalization and abandon (Skaloš et al., 2011, Larcher et al., 2013). Moreover, in the European Union (EU) since 1990, several rural landscapes were in transition, losing their primary agricultural functions, traditional crops, and historical land uses (Meeus et al., 1990; Cullotta and Barbera, 2011). The European Commission's Agri-Environmental Measures (2005) refer to maintain the sustainable farming systems, to sustain traditional landscape and to promote and rural development. In Europe, many historical rural landscapes have been subjected to transformations following land abandonment or crop conversion caused by processes of polarisation towards more urbanised areas (Pedroli et al., 2016). Recently in Italy, the Italian Statistical National Institute (ISTAT) measured in 50% the loss of cultivated lands between the 1930 and 2010. Urban sprawl and land consumption played a fundamental role in this process (Romano and Zullo, 2014).

Protecting, sustaining and valorising historical agricultural landscapes are considered priorities by the international community. In 2003, the FAO GIAHS project (Globally Important Ingenious Agricultural Heritage System) addressed the relationship between agricultural heritage systems and their landscape and outlined the need to safeguard them over time. Furthermore, up to 2016, 17 historical agricultural sites had been included in the World Heritage List as 'cultural heritage' by the United Nations Educational Scientific and Cultural Organization (UNESCO, 2016). These sites are mainly recognised for their distinctive

61      agricultural systems and historical features such as cultivation practices, land uses, productions

62      or traditional cultivations techniques (Gullino and Larcher, 2013). In this context,

63      multidisciplinary studies should be applied and specific actions, policies, measures and

64      management plans should be developed. Choi and Sirakaya (2005) and Dearborn and

65      Stallmeyer (2009) recognised a conflict between heritage protection and tourism development

66      and identified the need to develop policies and effective management strategies. These authors

67      outlined that what remains unclear is how the sustainable concept can concretely assume a

68      dynamic character and, moreover, how people's awareness changes through generations. The

69      identification of landscape planning policies, strategies and actions for historical rural areas is

70      a priority (Agnoletti, 2014).

71

72      *1.1. Participatory process for rural landscape planning*

73      The participatory approach allows to understand local actors' perspectives and problems

74      and to identify strategies for supporting the agriculture (Pinto-Correia et al., 2014; Cleary and

75      Hogan, 2016; Prasad Pant and Hambly Odame, 2016). The public participation can be used as

76      instrument for landscape planning too (Stenseke, 2009). Moreover, following the European

77      Landscape Convention's (ELC, 2000) recommendations concerning the need to take into

78      account people perception in landscape planning, public consultation has recently become an

79      increasingly important tool in the decision-making process. Jones and Stenseke (2011)

80      illustrated and compared different experiences of public participation across Europe. Local

81      participation evolved as a strategy in the conservation and maintenance of biological and

82      environmental resources and historical values in cultural landscapes. In the ELC the concept of

83      landscape was defined and 'means an area, as perceived by people, whose character is the result

84      of the action and interaction of natural and/or human factors'. In general, landscape is

85      differently understood and perceived by each stakeholder (Larcher et al., 2013). Rural

86    landscapes are non-static features and places that define people's livelihoods, identities, and

87    belief systems. According to Tress et al. (2007) and Antrop (2006) landscape is considered an

88    integrating concept that refers both to a physical reality that originates from the continuous and

89    dynamic interaction of natural processes and human activity and to immaterial existential

90    values and symbols that the landscape embodies.

91        For evaluating the sustainability of rural landscape over time according to cultural and

92    historical values, the "active" management is considered a primary goal. Gullino et al. (2015)

93    affirmed that a dynamic sustainability can be ensured through the evaluation of several

94    parameters and by the definition of an integrated planning approach. In this context, the

95    involvement of different stakeholders in the participatory process and the creation and

96    exploration of future landscape scenarios contribute to the development of sustainable future

97    landscapes (Bohnet and Smith, 2007; Tress and Tress, 2003). Moreover, to maintain farming

98    activity, historical crops and traditional elements, the recognition of qualifying elements and

99    the participation of local people are essential activities. With this approach the population

100   becomes more aware and responsible in the management process.

101

102   *1.2 Research aim*

103       New tools and techniques, based on multi-disciplinarity, increased the ability to monitor

104   and to explore changes in land cover over time (Pedroli et al., 2007; Barbera and Cullotta, 2012;

105   Almeida et al., 2015). According to these authors, we developed an integrated conceptual

106   framework. Frequently, historical values and permanences and traditional cultivations are in

107   conflict with commercial demand and social needs. To apply a methodology able to conjugate

108   the cultural and historical values with the socio-economic trends and create pathways for

109   planning historical rural landscapes, a multidisclinary study was developed. The method was

110   applied in Pralormo municipality (Piedmont, North-West Italy) as a case study.

111   The key goals of the research were:

112   - to develop an integrated empirical work promoting a bottom-up planning approach;

113   - to employ participatory approach (interviews) identifying problems and qualifying elements

114   perceived by local farmers;

115   - to identify shared actions, strategies and policies for rural historical landscape planning.

116   The development of integrated empirical work proposed in this paper, should be related to the

117   context used and to the focus' research. The methodological framework combines landscape

118   theoretical study with different participatory approaches. This pilot application demonstrates

119   how stakeholders participation would influence landscape planning process in rural areas.

120

121   **2. Material and methods**

122

123   *2.1. The study area*

124   The case study was the Pralormo municipality (44° 51' 39" North, 7° 54' 9" East)

125   (Piedmont Region, north-west Italy) and it is characterised by several agricultural patterns and

126   land uses. The municipality covers about 2980 ha with flat areas and hills ranging in altitude

127   from 260 to 1300 m above sea level. The rural mosaic is a non-specialised and fragmented farm

128   pattern of cereals (70%), grassland pasture (25%), woods (3%) and vineyards (2%). In 2013

129   there were 102 farms with 2042 ha of cultivated lands (Agricultural Statistical Census).

130   Pralormo municipality represents the diversity of the characteristic mosaic of the Pianura

131   Padana irrigated flat area. In fact, the landscape is dominated by different agricultural systems

132   combined with small-scale mosaics of other land uses resulting in a specific landscape

133   character.

134   A methodological approach to explore landscape scenarios was applied to Mértola

135   municipality in southern Portugal by Loupa Ramos (2010). In that case, the author decided to

136 study this site because it was considered fragile in terms of rural landscape and classified as

137 critical in terms of population density. By contrast, also considering the European trend

138 (Temme and Verburg 2011), we decided to study Pralormo municipality because in this site the

139 agricultural activity is already an important socioeconomic resource and, during the last decades

140 it has progressively increased in terms of cultivated surface (+30%). The evolution of

141 agriculture over time was analysed by checking the ISTAT data of the Census of Agriculture

142 between 1980 and 2010. This unusual dynamic shows how the agricultural sector continues to

143 represent the most important socio-economic resource for this municipality. Moreover, the area

144 is characterised by clay soils that in the past were exploited by inhabitants for building

145 fishponds. Since XIX century, these structures provided water for irrigation and were used for

146 tench fishing. Today in Pralormo municipality, a total of 102 fishponds characterize the

147 landscape. In this context, identifying actions, strategies and policies for conserving land uses

148 and landscape features were also our research aims.

149

150 *2.2. Methodological framework*

151      We developed a methodological framework to understand how the participatory

152 approach can contribute to landscape planning from the local to the regional level. In Italy

153 (Fig.1), the landscape policy is based on regional regulatory constraints and requirements

154 applied at landscape unit scale without effects on the municipality level (Fig.1A). Decisions

155 taken at the local level, on the other hand, can influence other municipalities in the same

156 landscape unit without effects on the regional level (Fig.1B). We considered that the empirical

157 work proposed, starting from the municipality level, can promote the exchange in each direction

158 by involving stakeholders from all the political levels (from municipality to regional level) (Fig.

159 1C). Moreover, the main political target of Pralormo was to adopt new landscape planning

160 policy to promote and enhance the rural landscape, and its cultural and historical features,

161  integrating all the qualifying elements in a project of sustainable development. Resulting from

162  our research, an integrated empirical work, actions, strategies and policies would be

163  implemented into planning documentations of the rural historical landscapes, as well as would

164  be involved into decision-making process.

165  The methodological framework applied in this research project was illustrated (Fig. 2).

166  Firstly, with the aim to identify historical permanences of rural landscape and theoretical

167  qualifying elements, historical and landscape analysis were performed. The first part of the

168  research was carried out by analysing documents and references from historical archives and

169  libraries: historical cartography and documents from the XVIII and XIX centuries were

170  collected. The evolution of the rural landscape in Pralormo and the identification of the

171  theoretical qualifying elements and historical permanences were also identified by the authors

172  as experts, through field observation (including photo documentation), the historical survey and

173  the comparison of ancient documents with present cartography and bibliography.  In parallel,

174  with the aim to identify problems and qualifying elements perceived by local farmers a

175  participatory approach was employed. Interviews were used.

176  Secondly, interviews results and historical data were analysed and processed for

177  proposing driving forces and future landscape scenarios. We used the focus group technique to

178  question policy-makers (PM) and civil society stakeholders (CS). Table 1 lists the type of

179  stakeholders involved during the first (interviews) and the second (focus group meetings) steps.

180  Therefore, farmers, landowners, planners, policy administrators and experts' expectations

181  might differ in many ways although they all refer to the same reality. For this reason, all these

182  actors were involved in our study, using different participatory techniques.

183

184  *2.3. Proposed driving forces and construction of landscape scenarios*

185    The initial step of this participatory research was a farm survey to investigate how land

186    is managed in Pralormo and to identify possible future landscape scenarios. A wide variety of

187    scenarios and methods used for their development exist in the literature. Palang et al. (2000)

188    decided to construct their scenarios using an holistic approach based on historical analysis to

189    predict future landscapes. Kok et al. (2006) integrated historical information and narrative

190    storylines that describe three possible directions of future change until 2030. By contrast, van

191    Berkel  et al. (2011) used interviews combining these methodologies, we built landscape

192    scenarios integrating historical and landscape analysis and interviews.

193    Table 2 shows the questionnaire used for the farmers' interviews. Using this protocol,

194    we investigated the farm structure and the rural landscape. According to Bohnet and Smith

195    (2007), for ensuring that the researcher covered the same topics in each interview, we decided

196    to use a qualitative semi-structured questionnaire. Questions were open, allowing follow up

197    prompts to discuss issues and encourage explorations of topics raised by the farmers'

198    interviews. Moreover, the survey included questions on the farm, the production activities, the

199    land uses, and the subsidy payments received by the regional Rural Development Programme

200    (RDP, 2007-2013). Regarding interviews, in line with Patel et al. (2007), Acs et al. (2010), and

201    Pasăkarnis et al. (2013) we selected a group of participants based on age and farm types. In our

202    study, we identified and interviewed 10 local farmers as representative of different farm types

203    based on enterprise mix and land holdings younger than 50 years old. We aimed to characterise

204    the agricultural sector and to have a significant representation in the answers, so the choice of

205    the farmers depended on the farm type.

206    The results came from the interviews and the historical landscape analysis allowed to

207    identify the proposed driving forces to be discussed during the focus group meetings, and old

208    and new elements useful for the scenario assessment. In particular, problems and qualifying

209  elements perceived by farmers combined with historical permanences and theoretical

210  qualifying elements were used and proposed.

211

212  *2.4. Focus group meetings*

213      Regarding focus group technique, two one-day meetings were organised and two main

214  goals were achieved. The first was the discussion of interviews results and the outlining of the

215  main driving forces of local landscape transformation, while the second was the analysis of

216  Pralormo future landscape scenarios and participant preferences. According to Lastra-Bravo et

217  al. (2015), driving forces can be defined as factors that influence and cause land covers and

218  land use transformations. Several driving forces affect landscape elements, land uses and

219  agricultural activity resulting into changes of landscape in the study area. Bürgi et al. (2004)

220  identified five major types of driving forces: socioeconomic, political, technological, natural,

221  and cultural. The authors outlined the importance of studying driving forces by developing

222  interdisciplinary and integrative works. In our study, we decided to consider the driving forces

223  as expressed by the community that represent their decisions (Schneeberger et al., 2007).

224      In this study, for reducing potential conflicts and influences, two small participant

225  groups were involved by administrators and policy-makers (PM) and the other by civil society

226  stakeholders (CS), members of local organisations and associations, residents and freelance

227  professionals. Two focus group meetings with PM and CS were organised to identify the

228  driving forces and their effects on rural landscape. We decided to involve PM and CS in order

229  to understand how the rural landscape is perceived by the main users and managers and how to

230  guide possible future transformations. In agreement with Bijlsma et al. (2011) and to prevent

231  the influences between PM and CS, we decided to involve as stakeholders different types of

232  actors from various organisations, local associations, administrative levels, and networks, and

233  hence were guided by different concepts, tasks, and opinions, and by different roles. The

234 stakeholder panel was expected to join the main community representatives and should cover a

235 variety of interests, aspirations, expectations and points of view. For PM, rural landscape is a

236 medium to better target policy decisions toward landscape management and planning. For CS,

237 rural landscape is perceived and evaluated differently, because of links to their background,

238 interests and experiences. The integration of both opinion groups contributed to develop a

239 bottom-up approach and identify different driving forces and possible landscape effects. In

240 agreement with Mauchline et al. (2012), in order to generate constructive discussions and to

241 improve the chances of reaching consensus on such technical and complex issues, only few

242 stakeholders should be involved. According with Reed et al. (2009) and Bui et al (2016)

243 different types of stakeholders were selected among each group. Moreover, like Breton Morris

244 et al. (2011) and Larcher et al. (2013), each focus group followed the same steps separately to

245 avoid influencing each other.

246

247 **3. Focus group scheme**

248       The methodology of the driving force and future scenario analyses followed the same

249 procedure within each focus group meeting.

250 The main steps of each focus group were as below.

251 •     Experts. Presentation of the research aim and interview's results. Regarding driving

252 forces three questions were asked:

253    1.   Which driving forces will change Pralormo's rural landscape in the next 20 years?

254    2.   What effects will those driving forces have on Pralormo's rural landscape?

255    3.   Can you assign a score to each driving force using the classification scale (from $1 = $ low

256      importance to $5 = $ high importance)?

257 •     Participants. Identification of driving forces and definition of their landscape effects;

258 discussion and classification (shared score).

259 • Experts. Presentation of the landscape elements that could transform and change rural

260 landscape in the next 20 years. Regarding landscape scenarios one question was asked:

261 1. Which elements would you select in relation to utility, feasibility and beauty scenarios?

262 • Participants. Construction of landscape scenarios.

263

264 After presentation of interview results (PowerPoint, Microsoft, Office 2010),

265 participants discussed the themes about land use policies and landscape transformations and

266 highlighted which driving forces might alter the rural area over the next 20 years. Then, the

267 group was asked to imagine the effect of such driving forces on Pralormo's landscape.

268 Afterwards, each participant wrote on individual cards what she/he believed to be the two

269 primary possible effects caused by the previously defined driving forces. Each participant

270 explained her/his chosen effects to the others. Experts collected the cards and immediately

271 composed a placard that displayed the focus group's defined driving forces with their potential

272 effects. Later, participants assigned a landscape shared score related to the importance of the

273 driving factors over the next 20 years (1= low importance; 5= high importance) in relation to

274 the landscape effects identified. The assignation of the values was the result of an open

275 discussion among participants and allowed them to classify the shared driving forces.

276 The second part of the focus group session was the scenario evaluation. During the focus

277 group meeting an exploratory forecasting methodology was employed. Through elaboration of

278 the interviews, experts presented several elements that could change Pralormo's landscape in

279 the next 20 years Adobe Photoshop (Elements 6.0). During the focus group meetings, each

280 participant selected the elements or added others creating her/his scenarios in relation to Utility,

281 Feasibility and Beauty, defined as follows:

282 - Utility: identifying the elements that improve the development and the welfare

283 of humans and landscape;

284          -       Feasibility: identifying the elements that are more realistic and achievable;

285          -       Beauty: identifying the elements that improve the quality of landscape (aesthetic

286    value).

287

288    **4. Results**

289

290    *4.1. Historical permanences and theoretical qualifying elements*

291          Regarding historical permanences and theoretical qualifying elements recognition, we

292    decided to report in this paper, the most important documentation of XVIII and XIX centuries

293    found in the archives. All the historical documents were reported in Gullino et al. (2013). The

294    list of archives consulted, the original name of document, the year, the kind of documentation

295    and the information acquired are reported in Table 3. The analysis of historical documents and

296    cartography confirmed the importance of agricultural activity in Pralormo municipality.

297    Historical literature, cartographies, figured land registers and cadastral maps allowed us to

298    understand the historical permanences and landscape structure, with particular attention to

299    settlements and cultivation types. The mixed landscape mosaic and the thriving agricultural

300    activity can be considered as theoretical qualifying elements. Most of the present farms,

301    fishponds and land use types were already present in the XIX century. Crops, woods, and

302    grassland pasture were the main historical cultivations and were maintained for centuries. By

303    contrast, winegrowing and orchards had greatly decreased. In the past, different autochthonous

304    vineyards were cultivated, each one characterised by typical agricultural features and

305    techniques. Nowadays, only a few vineyard plots are cultivated, especially in the hilly areas.

306    Historical permanences and traditional elements were identified: historical farm buildings, fish

307    ponds, hedgerows, woody areas, and traditional cultivations. During scenarios' evaluation

308    (Focus group meetings) these elements were proposed and showed to participants.

13

309    *4.2. Interviews' results: problems and qualifying elements perceived*

310    The analysis of interview results permitted us to identify the problems and the qualifying

311    elements perceived by Pralormo farmers. The 40% of farmers surveyed had a cereal address

312    and practiced livestock. Indeed, the majority of grain production is used for the livestock

313    activity. The analysed farms have an average extension of 20 ha. There are significant

314    differences in farm sizes. In particular, the cereal farms are the largest (> 50 ha), while the

315    floriculture and horticulture farms are less extensive (≤ 5 ha). The 80% of the farmers began

316    between 1995 and 2000 and they took over old farms and plots. Their activity is mainly family-

317    owned. The 90% of farmers interviewed transform agricultural and livestock products directly

318    on site and sell their products in the farm or in the markets of neighboring municipalities. The

319    60% are educational farms and they are associated with producer cooperatives. In the last three

320    years, the 90% of the farmers have enlarged the surface cultivated and increased production

321    and breeding. Some of their products are typical and some are niche products highly sought

322    after in the market. Several processed and transformed products are marked as original

323    denomination certificated (DOC) or original denomination and guaranteed production (DOCG).

324    Among the specialties that are produced/grown, there are several traditional agricultural

325    products (PAT) registered and recognised by the Italian Ministry of Agriculture, Food and

326    Forestry (list updated in 2015). The products' diversity and identity can be considered as a

327    qualifying element. About the 50% of the farmers received regional payments during the period

328    2007-2013 (Council Regulation 1968/2005), most related to the laboratory of transformation

329    and to the educational structures and projects.

330    Concerning rural landscape transformation, all farmers think that Pralormo landscape is

331    changing. By contrast with national trends, this phenomenon is not strictly linked with constant

332    urbanization: only the 20% of farmers is worried about the urban soil consumption linked with

333    the loss of the economic value of agriculture. In the last few years intensive farming has strongly

334    increased (+ 25% maize production), otherwise winegrowing and natural elements decreased.

335    The farmers though that there are many qualifying elements that should be valorised, in

336    particular the historical farms, the fishponds, the natural elements (hedgerows and woody

337    areas), and the system of paths and roads, assessing 4.5/5 points to Pralormo landscape. As

338    regards the future (2020), new and not traditional cultivations (hazelnut) will lead to a

339    deterioration of the agricultural landscape, decreasing the score (2.5/5). Recently, in this area

340    also a new system for renewable energy production was built (photovoltaic system). Half of

341    farmers assumed future land policy linked to agriculture and rural development sectors, and

342    urban planning would bring significant deterioration in the rural landscape quality. These

343    potential trends could determine the abandonment of agriculture and the development of new

344    residential, infrastructure, and service demands.

345

346    *4.3. Focus group' results: shared driving forces and effects on rural landscape*

347          The analysis of focus groups' results permitted us to identify shared driving forces

348    affecting rural landscape. Table 4 lists the 5 driving forces proposed by experts (E) compared

349    with the 7 identified by policy-makers (PM) and the 4 by civil society stakeholders (CS). We

350    can observe that some driving forces are similar: diffusion of new technologies connected with

351    intensive production and landscape planning tools. As said by farmers, soil consumption was

352    not identified as a potential driving force by the two groups of stakeholders. Table 5 and Table

353    6 show the influence on landscape over the next 20 years (landscape effects) identified by PM

354    and CS for each driving force and their impact on the Pralormo's rural landscape.

355          Both groups outlined the importance of agricultural activity for the studied area. PM

356    underscored the coexistence of two driving forces, intensive and extensive productions. The

357    first is linked with only negative effects, the second with only positive effects on landscape

358    quality. According to CS, the diffusion of new technologies connected with intensive

359  production maintains the agricultural activity and preserves the rural landscape from hydro-

360  geological disruption, but has several negative effects. These effects are mainly related to

361  environmental and agronomical aspects. The rural quality of life was interpreted by both groups

362  as 'farmer well-being'. Supporting farmers' incomes was favorably viewed. CS think that EU

363  policies can positively influence the landscape quality, determining positive effects

364  (agricultural production, historical crops and the expansion of natura areas) and favoring the

365  ecotourism demand. They highlighted that European support for farmers' income and activity

366  diversification brings positive results, for reinforcing traditional cultivations and producing

367  services and other products beyond the primary goods. The reduction of farmers' income could

368  have only negative effects and the rural landscape would be negatively influenced by

369  marginalization processes. PM outlined the lack of generational turnover in agriculture and

370  demographic problems. However, they identified the support qualifying landscape elements

371  (fishponds) as the most important driving force that could bring positive results. CS identified

372  landscape planning tools as the most important driving force for increasing biodiversity.

373        Regarding the urban sector, stakeholders had contrasting opinions. PM underscored the

374  current conflict between agricultural and urban interests caused by upgraded building stock. CS

375  highlighted 'strong' local landscape planning policies. Some policies could have positive

376  effects if correctly applied; for example, the restoration of historical buildings and rural farms.

377

378  *4.4. Focus group' results: scenarios*

379        Starting from the *status quo* of Pralormo rural landscape (2013), new residential and

380  industrial buildings, fishponds, hedgerows, hazelnut cultivation, monocultural system linked

381  with intensive production, woody areas and intensive livestock were proposed (Fig. 3).

382  Pralormo rural landscape was illustrated with these elements, results by previously analysis.

383  The mean ratings assigned to Utility, Feasibility, Beauty scenarios by civil society stakeholders

384  and policy-makers was reported (Fig. 4).

385  Regarding the Utility scenario, both groups considered as the most useful elements: the

386  woody areas, fishponds and hazelnut cultivation landscape. CS also outlined the development

387  in the future of new buildings (residential and industrial) and the presence of intensive

388  production (intensive livestock and monocultural systems). Moreover, CS identified other new

389  elements (fruit, honey and wood production, and organic agriculture).

390  Regarding the Feasibility scenario, CS and PM considered fishponds as the most

391  important landscape element. Both groups outlined woody areas, hazelnut cultivation,

392  hedgerows and row trees as secondary elements. Intensive livestock farming and agriculture

393  were particularly mentioned by CS. Also for this parameter, CS considered the development of

394  new buildings as a realistic landscape element.

395  Regarding the Beauty scenario, both groups considered fishponds, woody areas and

396  hedgerows and row trees as elements able to improve the visual quality of Pralormo's

397  landscape. CS and PM had similar opinions and few elements were selected.

398  By contrast with farmers' opinions, energy crops were not considered by PM and CS.

399  Analysing the three scenario preferences, it is possible to identify some elements that are at the

400  same time useful, realistic and beautiful (fishponds, woody areas). Regarding new residential

401  and industrial buildings, PM and CS had discordant opinions. In fact, PM considered that new

402  residential buildings are not necessary but they are feasible and nice. CS thought that new

403  buildings are useful and realistic.

404

405  **5. Discussion**

406  Analysis of interviews and focus group results identified shared qualifying elements.

407  Several landscape components were considered by local farmers, policy-makers and civil

408    society stakeholders as potential resources. For example, woody areas and fish ponds were

409    useful, feasible and beautiful. According to policy-makers, these landscape elements will be

410    valorised and preserved in the near future. In our study, the recognition by society and in

411    particular by the local stakeholders of cultural values of historical agricultural sites could be a

412    strategy for preserving them over time. By contrast, urban sector and energy crops were not

413    considered as possible solutions in the future. From this participatory study emerges that the

414    changing driving forces perceived by the stakeholders are linked to market international trends,

415    while their landscape effects are site-specific. The political response to the trend of globalisation

416    is to apply strategies able to increase the local valorisation. The recognition and focus on

417    traditional values and resources and the defence of traditional land uses are possible solutions

418    for ensuring agricultural activity. Indeed, the multifunctional system, the diverse and typical

419    agricultural products, the production of high-quality food, the transformation processes of these

420    products and direct sales, can be regarded as having the most important potential for the

421    Pralormo municipality. These elements can be considered as economically and socially

422    beneficial and as constituting a win-win scenario in the global market.

423

424    *5.1 How can different stakeholders contribute to landscape planning policy?*

425        This paper shows that there are complex socio-cultural and economic drivers affecting

426    the future(s) of the rural area studied. Regarding the conflict between landscape values and

427    society demands on land use resources, we think that empirically based research integrating

428    landscaping, sociological and historical approaches applied in the case study of the Pralormo

429    municipality, can be a useful tool, first to find plausible landscape futures, and second to trigger

430    discussions with the public regarding their aspirations. In this context, the recognition of

431    historical permanences and theoretical elements combining with the development and

432    assessment of land use scenarios should play an important role in promoting the understanding

433 of complex and uncertain decision making systems. In our study, interviews and focus group

434 results show that the agriculture sector is the greatest driving force shaping Pralormo landscape,

435 in the past, today and in the future. According to Loupa Ramos (2010) and Pinto-Correia et al.

436 (2016) although policy-makers and civil society stakeholders expressed different expectations,

437 perceptions, and attitudes in the discussions and they imagined different landscape scenarios.

438 In this context, the application of an integrated approach is a fundamental step for participatory

439 landscape planning. Both farmers' interviews and focus group techniques, shared actions,

440 strategies and policies were proposed for the planning of rural historical site (Fig.5). The

441 creation of a specific label, the direct sale in farm, the optimization of transformation food

442 process and the intensification of mixed farming could/should be considered possible actions

443 to apply. Linking food and landscape quality, preserving ancient settlement, conserving

444 cultivations, maintaining traditional land uses, promoting educational activities in farm,

445 valorizing educational farm and optimizing food quality are possible strategies. Supporting

446 farmers' income, developing rural development programs, increasing mixed systems and

447 implementing multifunctional system are the main policies proposed.

448 Regarding landscape effects identified by PM and CS, against urban sprawl and

449 intensification farming trend, the conservation of mixed systems (low intensity, small-scale

450 traditional mixed farming) and the promotion of a sustainable agricultural systems are also

451 international priorities (Andersson et al., 2014; Oteroz-Rozas et al., 2015). In particular, for

452 rural development policy in Europe improving the competitiveness of the agricultural and

453 forestry sectors, increasing biodiversity and the quality of life in rural areas, and encouraging

454 diversification of the rural economy are the main goals. Regarding this topic, Pedroli et al.

455 (2016) showed that the engagement of the local community can be re-activated at the landscape

456 level and that it can responsibly be involved in shared policies and decisions.

457

**6. Conclusions**

The case study described in this paper, based on theoretical and empirical studies reveals the main problems and offers possible solutions which should be reflected in the legislation to encourage the development of rural areas. Our results have been implemented and integrated in Pralormo municipality land use policies and could be useful for regional/national planning. In conclusion, we consider that the empirical approach used can contribute to landscape planning from the local to the regional level. In the case of Pralormo, which is transferrable to other European historical rural sites, we promoted the adoption of a new local landscape planning strategy with positive fall-out on the regional/national scale.

We think that the possible/potential solutions identify in this project could be considered a useful tools for planning historical rural sites. Moreover, linking food and landscape quality is considered an important issue for sustainable development in both rural and peri-urban areas. Also linking rural landscape with food quality and obtained products (Products of protected origin) should be considered a strategic measure and could be implemented. In fact, the multifunctional system, the diverse and typical products, production of high-quality food, the transformation processes of these products and direct sales, can be regarded as having the most important potential and value for historical rural sites. Using different measures and actions is possible to connect the concept of food - agriculture with historical, cultural, social and environmental values. It is an opportunity for the development of rural areas, for example Pralormo municipality, and at the same time a challenge.

We have shown how it is possible to apply a conceptual framework in order to better evaluate the future of rural historical landscape. We have demonstrated that the interaction between different stakeholders allowed to construct alternative visions of agricultural development and new possible scenarios. Stakeholder participation in environmental decision-making has been increasingly sought and embedded into national and international policy (Bui

483 et al. 2016; McKee, 2015; Kvakkestad et al. 2015; Pinto Correia and Kristensen, 2013). We

484 think that contrary to environmental aspects, participatory studies about rural landscape are not

485 'translated' into specific programmes or measures. In this context, to identify shared

486 development policies and agri-environment programmes, it is essential to analyse farmers'

487 attitudes towards their role and their landscape management goals. In our study, local farmers

488 were considered the first actors of the participatory process applied. With their activity, they

489 manage large areas of the landscape and they contribute to maintain and plan it.

490       Despite the difficulties regarding historical rural landscapes, translating actions and

491 strategies into practice is an essential step for ensuring traditional values. In rural planning

492 processes it is important properly to consider the interests, preferences, problems and targets of

493 the different stakeholders, and to understand that these positions can change and evolve (van

494 Berkel and Verburg, 2011). We conclude that public consultation using interviews and focus

495 group meetings is a capable method with which to assess people perceptions. Analysing

496 personal awareness of the driving forces and transformations affecting rural landscapes and

497 their effects in the next 20 years should be considered a way to support future local planning

498 policies according to historical and cultural values.

499

**References**

Acs, S., Hanley, N., Dallimer, M., Gaston, K.J., Robertson, P., Wilson, P. and Armsworth P. R., 2010. The effect of decoupling on marginal agricultural systems: Implications for farm incomes, land use and upland ecology. Land Use Policy 27, pp. 550–563.

Agnoletti, M., 2014. Rural landscape, nature conservation and culture: Some notes on research trends and management approaches from a (southern) European perspective. Landscape and Urban Planning 126, pp. 66–73.

Almeida, M., Loupa-Ramos, I., Menezes, H., Carvalho-Ribeiro, S., Guiomar, N. and Pinto-Correia, T., 2015. Urban population looking for rural landscapes: Different appreciation patterns identified in Southern Europe. Land Use Policy, doi:10.1016/j.landusepol.2015.09.025.

Andersson, J.A., Giller, K.E. and Sumberg, J., 2014. Comment on "Evaluating conservation agriculture for small-scale farmers in Sub-Saharan Africa and South Asia". Agriculture, Ecosystems & Environment 196, pp. 21–23.

Antrop, M., 2005. Why landscapes of the past are important for the future? Landscape and Urban Planning 70, pp. 21–34.

Antrop, M., 2006. Sustainable landscapes: contradiction, fiction or utopia? Landscape and Urban Planning 75, pp. 187–197.

Barbera, G. and Cullotta, S., 2012. An inventory approach to the assessment of main traditional landscapes in Sicily (Central Mediterranean Basin). Landscape Research 37 (5), pp. 539–569.

Bohnet, I. and Smith. D.M., 2007. Planning future landscapes in the Wet Tropics of Australia: A social–ecological framework. Landscape and Urban Planning 80, 137-152.

Breton Morris, J., Tassone, V., De Groot, R., Camilleri, M. and Moncada, S., 2011. A framework for participatory impact assessment: Involving stakeholders in European policy

529 making, a case study of land use change in Malta. Ecology and Society 16(1), Art. 12.

530 http://www.ecologyandsociety.org/vol16/iss1/art12/.

531 Bui S., Cardona, A., Lamine, C. and Cerf M., 2016. Sustainability transitions: Insights on

532 processes of niche-regime interaction and regime reconfiguration in agri-food systems. Journal

533 of Rural Studies 48, pp. 92-103.

534 Bürgi, M., Hersperger, A.M. and Schneeberger, N., 2004. Driving forces of landscape change

535 – current and new directions. Landscape Ecology 19, pp. 857-868.

536 Choi, H. and Sirakaya, E., 2005. Measuring residents' attitude toward sustainable tourism:

537 Development of sustainable tourism attitude scale. Journal of Travel Research 43, pp. 380–394.

538 Cleary, J. and Hogan A., 2016. Localism and decision-making in regional Australia: The power

539 of people like us. Journal of Rural Studies 48, pp. 33-40.

540 Cullotta, S. and Barbera, G., 2011. Mapping traditional cultural landscapes in the

541 Mediterranean area using a combined multidisciplinary approach: Method and application to

542 Mount Etna (Sicily; Italy). Landscape and Urban Planning 100, pp. 98-108.

543 Dearborn, L. M. and Stallmeyer, J. C., 2009. Re-visiting Luang Prabang: transformations under

544 the influence of world heritage designation. Journal of Tourism and Cultural Change 7 (4), 247–

545 269.

546 European Commission, 2005. Agri-Environmental Measures: Overview on General Principles,

547 Types of Measures, and Application. European Commission Directorate General for

548 Agriculture and Rural Development Press, Brussels.

549 Gullino, P. and Larcher F., 2013. Integrity in UNESCO World Heritage Sites. A comparative

550 study for rural landscapes. Journal of Cultural Heritage 14, pp. 389–395.

551 Gullino, P., Larcher, F. and Devecchi, M., (Eds) 2013. Il paesaggio di Pralormo. Dall'analisi

552 storica alla partecipazione locale. Agit Mariogros Press, Torino.

553 Gullino, P., Beccaro, G.L. and Larcher, F., 2015. Assessing and Monitoring the Sustainability

554 in Rural World Heritage Sites. Sustainability 7, pp. 14186-14210.

555 Italian Statistical National Institute, Census of Agriculture. 1980-1990-2000-2010.

556 Caratteristiche strutturali delle aziende agricole. Fascicolo Provinciale Torino. Istituto

557 Nazionale di Statistica [Structural characteristics of farms. Agricultural census Torino

558 Province. National Institute of Statistics].

559 Jones, M., Stenseke, M. (Eds) 2011. The European Landscape Convention: Challenges of

560 Participation. Springer edition, Dordrecht,

561 Kok, K., Patel, M., Rothman S. D. and Quaranta G., 2006. Multi-scale narratives from an IA

562 perspective: Part II. Participatory local scenario development. Futures 38, 3, pp. 285–311.

563 Kvakkestad, V., Rørstad, P. K. and Vatn, A., 2015. Norwegian farmers' perspectives on

564 agriculture and agricultural payments: Between productivism and cultural landscapes. Land

565 Use Policy 42, pp. 83–92.

566 Larcher, F., Novelli, S., Gullino, P. and Devecchi, M., 2013. Planning Rural Landscapes: A

567 Participatory Approach to Analyse Future Scenarios in Monferrato Astigiano, Piedmont, Italy.

568 Landscape Research 38 (6), pp. 707-728.

569 Lastra-Bravo, X.B., Hubbard, C., Garrod, G. and Tolón-Becerra A., 2015. What drives farmers'

570 participation in EU agri-environmental schemes? Results from a qualitative meta-analysis.

571 Environmental Science & Policy 54, pp. 1-9.

572 Loupa Ramos, I., 2010. 'Exploratory landscape scenarios' in the formulation of 'landscape

573 quality objectives'. Futures 42, pp. 682-692.

574 Mauchline, A. L., Mortimer, S. R., Park, J. A., Finn, J. A., Haysom, K., Westburya, D. B.,

575 Purvis, G., Louwagie, G., Northey, G., Primdahl, J., Vejre, H., Kristensen, L. S., Teilmann, K.

576 V., Vesterager, J. P., Knickel, K., Kasperczyk, N., Bala´ zs, K., Podmaniczky, L., Vlahos, G.,

577 Christopoulos, S., Kröger, L., Aakkula, J. and Yli-Viikari, A., 2012. Environmental evaluation

of agri-environment schemes using participatory approaches: Experiences of testing the Agri-

Environmental Footprint Index. Land Use Policy 29, pp. 317–328.

McKee, A.J., 2015. Legitimising the Laird? Communicative Action and the role of private landowner and community engagement in rural sustainability. Journal of Rural Studies 41, pp. 23-36.

Meeus, J. H. A., Wijermans, M. P. and Vroom, M. J., 1990. Agricultural landscapes in Europe and their transformation. Landscape and Urban Planning 18, pp. 289–352.

Oteroz-Rozas, E., Martín-López, B., Daw T.M., Bohensky, E.L., Butler, J.R.A., Hill, R., Martin Ortega, J., Quinlan, A., Ravera, F., Ruiz-Mallén, I., Thyresson, M., Mistry, J., Palomo, I., Peterson, G.D., Plieninger, T., Waylen, K.A., Beach, D.M., Bohnet, I.C., Hamann, M., Hanspach, J., Hubacek, K., Lavorel, S. and Vilardy, S.P., 2015. Participatory scenario planning in place-based social-ecological research: insights and experiences from 23 case studies. Ecology and Society, 20, 4, 32. http://www.ecologyandsociety.org/vol20/iss4/art32/

Palang, H., Alumäe H. and Mander U., 2000. Holistic aspects in landscape development: a scenario approach. Landscape and Urban Planning 50, pp. 85-94.

Patel, M., Kok, K. and Rothman D. S., 2007. Participatory scenario construction in land use analysis: An insight into the experiences created by stakeholder involvement in the Northern Mediterranean. Land use policy 24, pp. 546-561.

Prasad Pant, L. and Hambly Odame H., 2016. Broadband for a sustainable digital future of rural communities: A reflexive interactive assessment. Journal of Rural Studies, in press.

Pasăkarnis, G., Morley, D. and Maliene V., 2013. Rural development and challenges establishing sustainable land use in Eastern European countries. Land Use Policy 30, pp. 703-710.

601  Pedroli, B., Van Doorn, A., De Blust, G., Paracchini, M.L., Wascher, D. and Brunce F., 2007.

602  Europe's Living Landscapes. Essays exploring our identity in the countryside. 1 ed., Landscape

603  Europe, Wageningen, KNNV, Zeist, Holland.

604  Pedroli, B., Pinto-Correia, T. and Primdahl J., 2016. Challenges for a shared European

605  countryside of uncertain future. Towards a modern community-based landscape perspective.

606  Landscape Research 41 (4), pp. 450-460.

607  Pinto-Correia, T. and Kristensen, L., 2013. Linking research to practice: The landscape as the

608  basis for integrating social and ecological perspectives of the rural. Landscape and Urban

609  Planning 120, pp. 248-256.

610  Pinto-Correia, T., Menez, H. and Barroso, L.F., 2014. The Landscape as an Assessment in

611  Southern European Fragile Agricultural Systems: Contrasts and Contradictions in Land

612  Managers' Attitudes and Practices. Landscape Research 39 (2), pp. 205-217.

613  Pinto-Correia, T., Guiomar, N., Guerra, C.A. and Carvalho-Ribeiro S., 2016. Assessing the

614  ability of rural areas to fulfil multiple societal demands. Land Use Policy 53, 86-96.

615  Reed, M.S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., Prell, C., Quinn,

616  C.H. and Stringer, L.C., 2009. Who's in and why? A typology of stakeholder analysis methods

617  for natural resource management. Journal of Environmental Management 90, pp. 1933–1949.

618  Romano, B. and Zullo F., 2014. Land urbanization in Central Italy: 50 years of evolution.

619  Journal of Land Use Science 9 (2), pp. 143–164.

620  Sandker, M., Campbell, B. M., Ruiz-Pérez, M., Sayer, J. A., Cowling, R., Kassa, H. and Knight.

621  A. T., 2010. The role of participatory modeling in landscape approaches to reconcile

622  conservation and development. Ecology and Society 15,2, 13 [online] URL:

623  http://www.ecologyandsociety.org/vol15/iss2/art13/

624    Schneeberger, N., Bürgi, M., Herspergerb, A.M. and Ewaldc, KC., 2007. Driving forces and

625    rates of landscape change as a promising combination for landscape change research—An

626    application on the northern fringe of the Swiss Alps. Land Use Policy 24, pp. 349-361.

627    Skaloš, J., Weber, M., Lipský Z., Trpáková, I., Šantrůčková, M., Uhlířová, L. and Kukla P.,

628    2011. Using old military survey maps and orthophotograph maps to analyse long-term land

629    cover changes e Case study (Czech Republic). Applied Geography 31, pp. 426-438.

630    Stenseke, M., 2009. Local participation in cultural landscape maintenance: Lessons from

631    Sweden. Land Use Policy 26, pp. 214–223.

632    Tress, B. and Tress, G., 2003. Scenario visualisation for participatory landscape planning—a

633    study from Denmark. Landscape and Urban Planning, 64, 3, pp. 161-178.

634    Tress, B., Tress, G. and Fry G., 2007. Analysis of the barriers to integration in landscape

635    research projects. Land Use Policy, 24, 2, pp. 374-385.

636    Temme, A.J.A.M. and Verburg, P.H., 2011. Mapping and modelling of changes in agricultural

637    intensity in Europe. Agriculture, Ecosystems & Environment 140, pp. 46–56.

638    UNESCO, 2016. List of World Heritage Sites. http://whc.unesco.org/en/list (accessed 16

639    November 2016).

640    van Berkel, D.B., S., Carvalho-Ribeiro, S., Verburg, P. H. and Lovett, A., 2011. Identifying

641    assets and constraints for rural development with qualitative scenarios: A case study of Castro

642    Laboreiro, Portugal. Landscape and Urban Planning 102, pp. 127–141.

643    van Berkel, D.B. and Verburg, P.H., 2011. Sensitising rural policy: Assessing spatial variation

644    in rural development options for Europe. Land Use Policy 28, pp. 447-459.
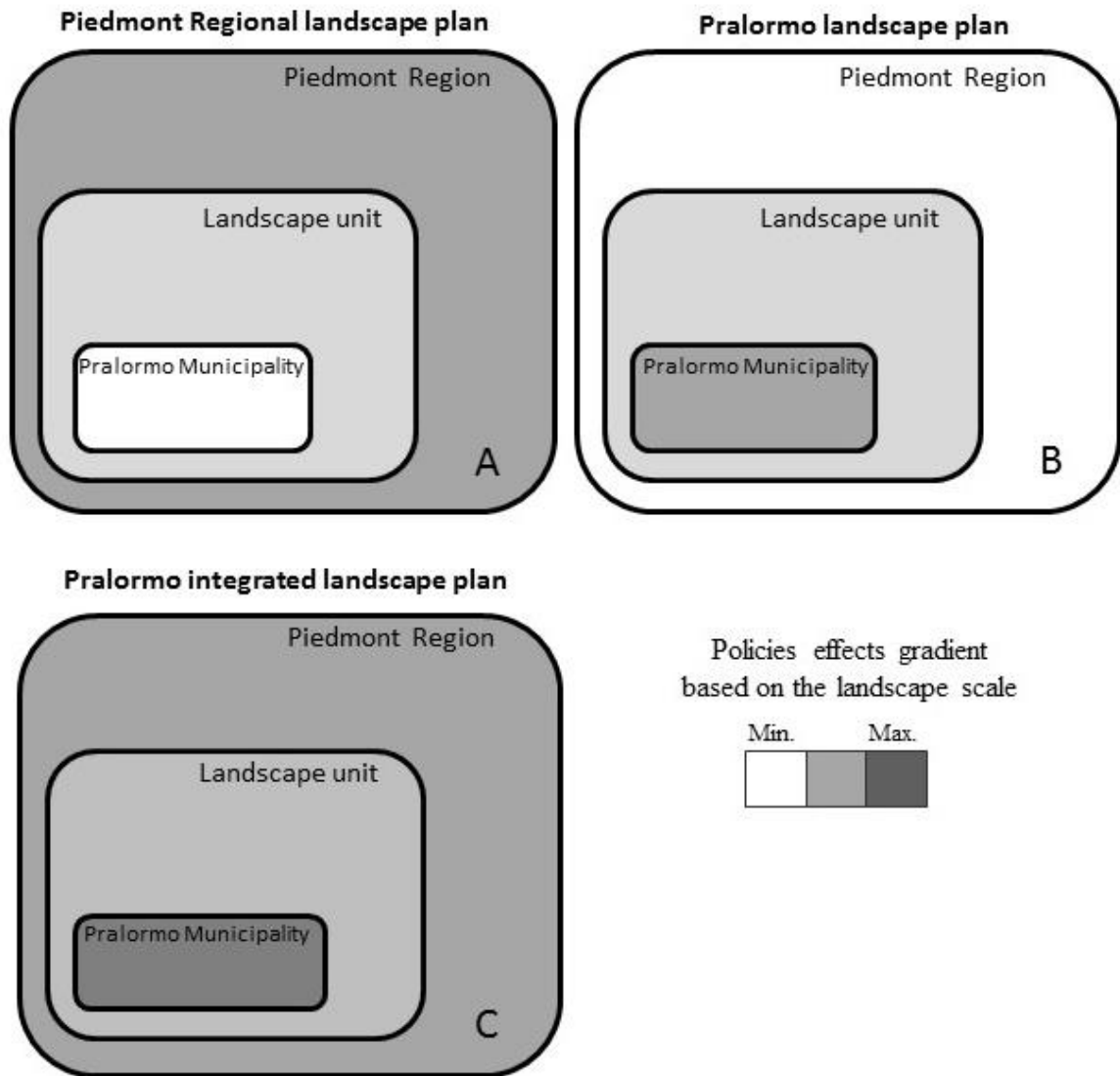
**Figures**

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649    **Figure 1. Scheme of the policy effects gradient at different landscape scales in Piedmont:**
650    **the regional approach (A), the municipality approach (B), the integrated empirical work**
651    **proposed (C).**
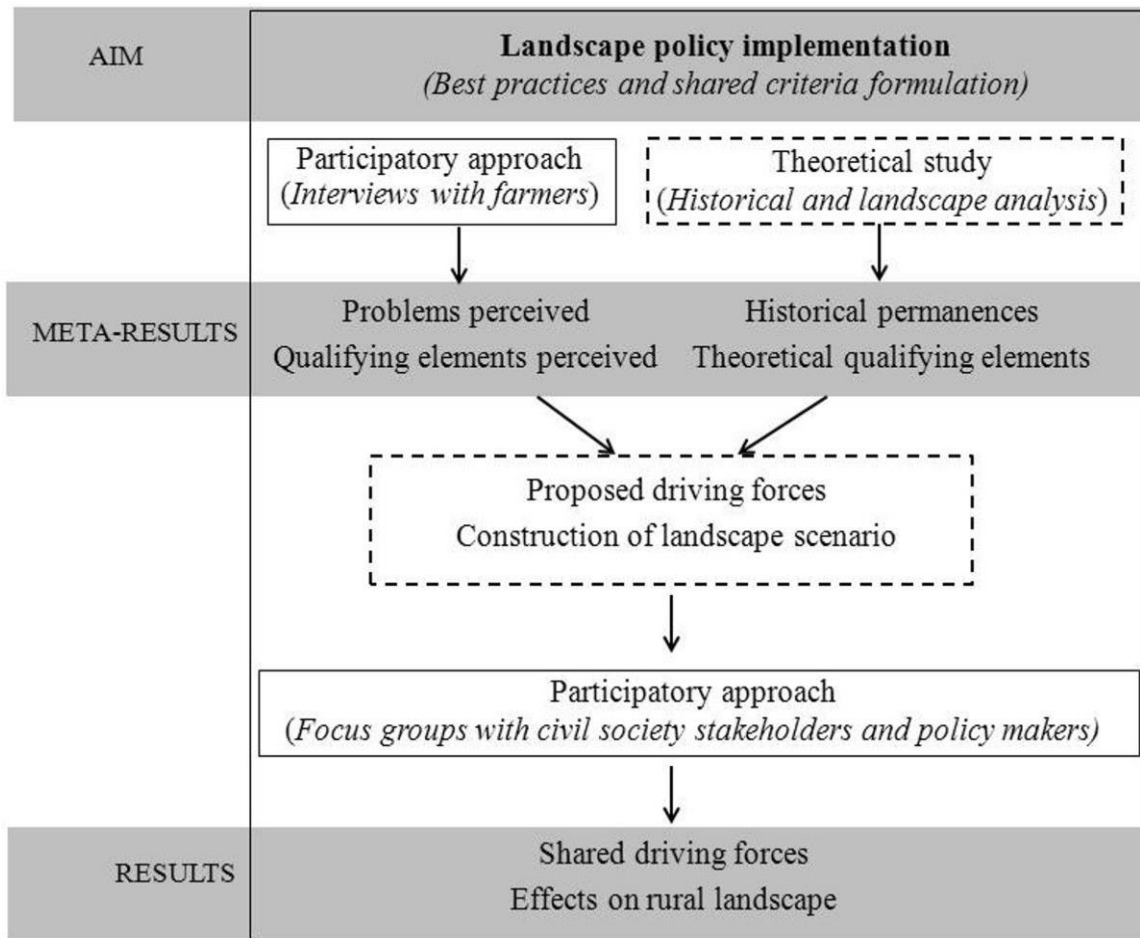
652
653 **Figure 2. The methodological framework applied in the research.**
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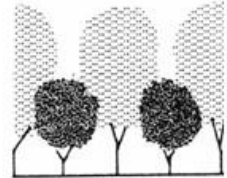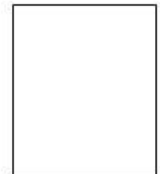
**Figure 3. Landscape scenario assessment.** *Status quo* **of Pralormo's rural landscape and elements proposed.**
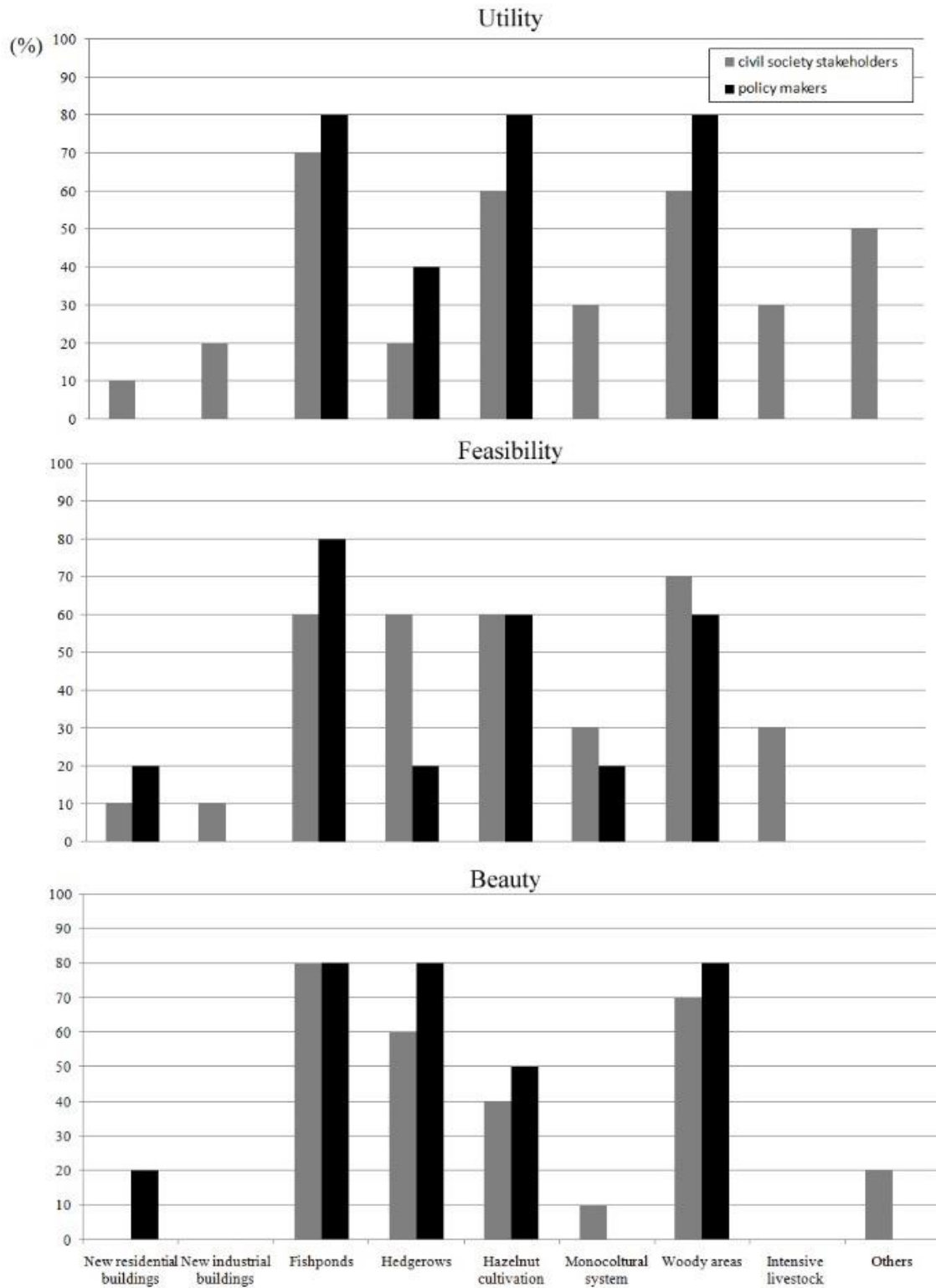
670
671 **Figure 4. Mean ratings assigned to Utility, Feasibility, Beauty scenarios by civil society**
672 **stakeholders and policy-makers.**
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**ACTIONS**

Creation of a specific label
Direct sale in farm
Optimization of transformation food process
Intensification mixed farming

**STRATEGIES**

Linking food and landscape quality
Preserving ancient settlements
Conserving traditional cultivations
Maintaining traditional land uses
Promoting educational activities
Valorizing educational farms
Optimizing food quality

**POLICIES**

Supporting farmers' income
Developing s rural development programs
Increasing mixed systems
Implementing multifunctional system

**RURAL HISTORICAL LANDSCAPE PLANNING**

677
678 **Figure 5. Actions, strategies and policies identified for the rural historical landscape**
679 **planning**

680 **Tables**
681
682
683 **Table 1. Type and number of stakeholders involved in interview step and focus group**
684 **step. Between brackets is the number of invited people for each type.**
685

| Type of stakeholders | Participant number (invited) |
|---|---|
| *Farmers interviewed* | |
| Grain farmer | 2 (2) |
| Livestock | 2 (2) |
| Horticulture grower | 2 (2) |
| Flower grower | 1 (1) |
| Wine grower | 1 (1) |
| Fish farmer | 1 (1) |
| Fruit grower | 1 (1) |
| *Policy-makers focus group* | |
| Municipality organisation | 4 (5) |
| Regional organisation | 1 (1) |
| *Civil society stakeholders focus group* | |
| Agricultural institution | 1 (1) |
| Other local organisations | 4 (5) |
| Freelance professionals | 5 (6) |
| Researcher | 1 (1) |
| Hotelier | 0 (2) |

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**Table 2. Questionnaire for farmers' interview**

| | Questions |
|---|---|
| **The farm…** | *What is the size of your farm?* |
| | *When did you begin your farming activity?* |
| | *Which kinds of cultivations are practiced?* |
| | *How do you sell your products? Where?* |
| | *Do you transform your products obtained?* |
| | *Do your products have a certificate of origin?* |
| | *Have you introduced new crops in the last five years? Which?* |
| | *Did you receive EU payments during the period 2007 to 2013?* |
| **The landscape…** | *Do you think that Pralormo's landscape has changed over time?* |
| | *How will the rural landscape change in the next five years?* |
| | *What score would you assign to your rural landscape (2015)?\** |
| | *What score would you assign to your rural landscape (2020)?\** |
| | *What are the landscape elements that could change the agricultural landscape?* |
| | *What are the qualifying elements that should be valorised?* |
| | *What are the problems that should be solved?* |
| | *Do you have any other comments?* |

\*score from 1(low) to 5 (high)

706 **Table 3. The list of archives consulted, the kind of documentation, original name and year**
707 **and the information acquired.**
708

| Archive name and localization | Original name | Year | Type of documentation | Information acquired |
|---|---|---|---|---|
| Archive of Turin, Sezioni Riunite (TURIN) | Tippo delle Bealere | 1731 | Map | Fishponds and irrigation system |
| | PLAN GEOMETRIQue 1/ de la Commune de Pralormo. | 1806 | Cadastral map | Land use types, and farm buildings |
| | Plan parcellare de Pralormo | 1806 | Figured land register | Cultivations practiced and settlements character |
| | INFORMATIVA dei Signori intendenti del Piemonte sulla materia dei boschi. | 1784 | Literature | Land use types and woods features |
| Archive of Turin, Sezione Corte (TURIN) | Figura dimostrativa delle strade che da Torino tendono alla Città di Asti et Alba | 1784 | Map | Landscape structure and settlements character |
| | Notizie topografiche e statistiche sugli Stati Sardi. | 1847 | Literature | Cultivations practiced, production, agricultural features and tecniques |
| Archive of the Royal Agricultural Academy (TURIN) | CARTA MODERNA/ DEGLI/ STATI SARDI/ DI/ TERRAFERMA | 1844 | Map | Landscape structure |
| | Dizionario geografico storico-statistico-commerciale degli Stati S.M. il re di Sardegna | 1847 | Literature | Land uses, techniques, productions and traditional cultivations |
| Archive of Pralormo (Pralormo) | | 1899-1920 | Photo Postcards | Landscape structure |

709

**Table 4. Driving forces identified by experts (E), policy-makers (PM) and civil society**
**stakeholders (CS)**

| Driving Forces (E) | Driving Forces (PM) | Driving Forces (CS) |
|---|---|---|
| Diffusion of new technologies connected with intensive production | Diffusion of new technologies connected with intensive production | Diffusion of new technologies connected with intensive production |
| Maintenance of technologies and crops connected with extensive production | Maintaining of technologies and crops connected with extensive production | |
| EU policies directed towards supporting farmers' income and activity diversification in rural areas | | EU policies directed towards supporting farmers' income and activity diversification in rural areas |
| | | Local landscape planning policies (urban buildings and rural farms) |
| Soil consumption | | |
| | Upgraded building stock (historical buildings) | |
| Landscape planning tools | Landscape planning tools | Landscape planning tools |
| | Lack of generational turnover in agriculture/demographic problems | |
| | Reduction of farmers' income | |
| | Support qualifying landscape elements (fishponds) | |

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**Table 5. Importance of driving forces and landscape effects according to the policy-makers (PM)**

| Driving Forces (PM) | Landscape Effect (+) | Landscape Effect (-) | Score (1-5) |
|---|---|---|---|
| Diffusion of new technologies connected with intensive production | | Increased intensive cultivation (maize) Few productive cultivations Few farms | 3 |
| Maintenance of technologies and crops connected with extensive production | Valorisation of hill areas Landscape mosaic heterogeneity Consolidation and spread of crops and agricultural methods connected with quality food production | | 1 |
| Upgraded building stock (historical buildings) | | Conflict between agricultural and urban interests | 4 |
| Landscape planning tools | Visual landscape improvement | | 3 |
| Lack of generational turnover in agriculture/demographic problems | | Increase of marginal areas | 4 |
| Reduction of farmers' income | | Abandon of historical cultivations which are not cost-effective (vineyards) Introduction and significant spread of new crops (hazelnuts, energy crops) | 4 |
| Support qualifying landscape elements (fishponds) | Recovery abilities of ancient fishponds Valorisation of wet habitat linked with fishponds Increase of fishing activity | | 5 |

**Table 6. Importance of driving forces and landscape effects according to the civil society stakeholders (CS)**

| Driving Forces (CS) | Landscape Effect (+) | Landscape Effect (−) | Score (1-5) |
|---|---|---|---|
| Diffusion of new technologies connected with intensive production | Land preservation from hydro-geological disruption | Devaluation of typical products<br>Abandon of historical cultivations which are not cost-effective<br>Depletion of soil fertility (risk of environmental pollution)<br>Transformation of farm management | 4 |
| EU policies directed towards supporting farmers' income and activity diversification in rural areas | Organic and specialised agriculture<br>Typical agricultural products<br>Quality productions<br>Expansion and consolidation of traditional (and/or niche) cultivations in the richest areas<br>Consolidation and spread of cultivation practices linked to specialty farming production<br>Expansion of forest and natural areas<br>Ecotourism demand | Increased marginal areas<br>Loss of agricultural land | 3 |
| Local landscape planning policies (urban buildings and rural farms) | Policies for restoration of existing buildings: valorization of historic city centres and rural farms | Deterioration in quality of building stock<br>Abandonment of rural buildings<br>New buildings policies: loss of agricultural land to new housing<br>New buildings policies: loss of visual landscape quality | 2 |
| Landscape planning tools | Increased biodiversity | | 5 |