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Towards a transformational hydraulic engineering project for the territory: A focus on the Working With People (WWP) model

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ABSTRACT

Hydraulic engineering projects have traditionally been carried out from a predominantly technical point of view, which on occasions ignores the needs of the territory in which they are based and the possibilities that water resources provide as a development factor.The implementation of projects that were not adequately suited to the needs of the environment and its population has led to many issues that have directly had an effect on their implementation and operation. As a result, one of the objectives in recent years has been to resolve these issues; with many authors turning to participative models linked to social theory in order to achieve this. However, they have been unable to agree on a model or outline the objectives that the project should seek to achieve. This article explores how the use of a planning model based on social learning and the develop "by" people and not "for" people principle, Working with People, in a water supply hydraulic engineering project (PANIATS), implemented originally from a purely technical perspective, is able to strengthen it, facilitate understanding amongst the population and generate new projects associated with the original project such as the agricultural transformation of 2089ha of irrigable land. All of this leads to the creation of social capital and development that makes the project a transformational factor within the territory.

1. Introduction

The planning and management of hydraulic projects is one of the major challenges facing mankind (Graveline et al., 2014). Water, as a basic necessity, becomes a generator of wealth, well-being and development for the territory in which it is available (De Nicolás et al., 2014), acting as a contributing factor for development (Leidel et al., 2012) as a result of improvements in agricultural supply and production systems in areas that are predominantly rural (Granados, 1995).

Historically, planning and hydraulic projects have been considered from a modern (rational) focus, in which projects were determined primarily based on technical/economic needs (De Nicolás et al., 2014). This way of carrying out projects (blueprint) (Cazorla et al., 2013) replaces political–contextual and ethical–social components with a practically inexistent plan (Cazorla et al., 2004). However, considering that the difficulties with water intrinsically involve a social development need or opportunity (Ferro and Lentini, 2012), and as a result a transformation of the territory affected by the project, we should pay close attention to the way in which hydraulic projects are planned and implemented (Franzen et al., 2015), adapting them to the needs of the territory and the population involved (Lee, 2006).

The involvement of stakeholders in their own hydraulic projects therefore appears to be a topic that needs to be considered (Webler and Renn, 1995), having generated several debates on the subject, whilst at the same time providing positive experiences with regards to implementation in different places (Graveline et al., 2014). As a result, some authors have stated that it is necessary to propose a new model to promote planning, design and strengthening of hydraulic engineering projects, in which stakeholders and the territory are taken into account (Reed, 2008; Koontz and Newig, 2014; Butler and Adamowski, 2015).

Looking at the general definition of a project proposed by professors Cleland and King (1975) which is a combination of human and physical resources, temporarily brought together in an organisation, with the purpose of achieving a specified objective (implying investment efforts in terms of economic and social resources, in order to generate goods and services as well as capabilities in the future) (Trueba and Morales, 2011); several authors have stated that if efficient water usage projects want to be successful in the long term, by virtue of environmental, economic and social considerations, the territory's existing social capital—understanding this to be the combination of relationships and organisations in

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the territory—they have to be considered with the objective of correctly defining the project management that needs to be carried out (Wolfe, 2010). If the aforementioned social capital does not exist, it will be necessary to create this (Elijah et al., 2014; Westlund, 2014). However, this social capital should not be in isolation, given that it constitutes a series of relationships that are necessary and it generates social learning (Pahl-Wostl et al., 2007; Mostert et al., 2007a,b; Berkes, 2009).

Berkes (2009) considers social learning as an essential factor when it comes to implementing projects; it is seen as the starting point as well as the result of cooperation between stakeholders (based on problem solving and group reflection, facilitating the exchange of experience and ideas; leading to some planning processes such as Social Learning which operate on the basis that all effective learning arises from the experience of changes in reality (Cazorla and De Nicolas, 2015). The population affected by a project actively participates in the actions that need to be carried out, through their own behaviours, attitudes and values that generate actions aimed at incorporating the acquired knowledge (Hulme, 1999) amongst the affected population, as well as the planner's expert knowledge, providing mutual learning (Argyris and Schön, 1978). As a result, social learning itself consolidates empowerment amongst the agents, which facilitates the management of resources such as water (Andolina, 2012). This empowerment implies an active participation style which facilitates social development based on the project, thus strengthening the transformation of the territory (Midgley, 2014).

In 2013, Cazorla et al., (2013) outlined the working with people: a proposal from social learning planning model. This model suggests moving away from an exclusively "technical" view of the project, putting a greater emphasis on people's behaviour and the context in which the activity takes place (Cazorla et al., 2013) (IPMA, 2010). The model is based around three components which interact through social learning processes. These three components are: (1) the ethical–social component, which covers behaviours, attitudes and people who interact to promote and manage the project; (2) the technical–entrepreneurial component, which integrates the key elements that enable the project to "function"; (3) the political–contextual component, which covers the project's ability to "connect" with the political and regional organisations in the area which it is based.

Despite all of this intellectual development in relation to a new social context, in many countries such as Spain, hydraulic projects continue to be carried out following the 'blueprint' method. When it comes to implementing or managing hydraulic projects and plans, participatory models are not sufficiently developed, and are limited to a six-month public consultation system (Ministerio de Agricultura, 2015) which does not actively involve the population or its associations (social capital) during the process. As a result, the projects and plans' ethical–social and political–contextual components are hard to distinguish, leading to vulnerabilities due to the lack of support amongst the population or territory.

Similarly, it is possible to find rural areas in Europe, and therefore Spain, in which the LEADER model is used. The LEADER model is a rural development methodology based on the prominence, autonomy and accountability of the rural population in terms of its own development, to the extent that the rural population organises itself through territorial associations which are known as local action groups (LAGs), analyses the situation in the region, identifies and assesses the problems being faced, prioritises them, evaluates possible solutions, selects those it can tackle with the resources it has or those it can get from public authorities, designs an implementation strategy, implements the strategic programme, and finally, evaluates and undertakes new challenges (Cazorla et al., 2005; De los Ríos et al., 2010; Cazorla et al., 2013).

Since their creation, the LAGs associated with LEADER have become essential elements when it comes to improving governance andconsolidating social capital in rural areas (Kołomycew, 2011; Zajda, 2014). As a result, the LAGs have been able to define with a certain amount of precision both the needs of the territory as well as its strengths and opportunities (Yague et al., 2013). These are basic aspects in terms of defining the objectives and actions which need to be implemented; that is, when it comes to designing and executing plans and projects that meet these needs and maximise the opportunities that arise from the internal, physical, human and institutional resources, as well as those from the external environment (Red Rural Nacional, 2011). Despite this, the LAGs are not actively considered during the planning and design of hydraulic projects within their territory (Yague et al., 2013).

The aim of this article is to analyse how a blueprint hydraulic engineering project (based on the WWP model) is able to adapt to the needs of the territory by involving stakeholders in the project process, including the LAGs and the affected population. As a result, there is an increase in social capital in the territory as well as social development, which makes the original project a transformational project within the territory.

2. Case study: PANIATS project

Despite subsequently being partly revoked, the approval of the National Water Plan proposed in 2001, solved the water supply problems in The Levante, Spain without the need to rely on the support of the Tajo–Segura water transfer. The new exploitation opportunities this infrastructure provided, along with the insufficient and decentralised supply system in 33 towns in the province of Cuenca, led to the creation of the project to supply areas adjacent to the Tajo–Segura aqueduct.

The project studied the supply to 33 town centres in the province of Cuenca (with planned expansion to another 7) see Fig. 1, with a total population of 28,238 inhabitants in the forecast year.

Technical development included an outlet in the reservoir of the Valdejudíos river (headwaters of the La Mancha plains, also currently being built); purification in a specific water purification plant for the project's requirements, made up of 2 round filters, multi-layered closed filters, and sterilisation; a pump for nominal flow of 640 m3/h, and manometric head of 190 m; a drive system towards the general tank, 3 km longitude and 400 m diameter; a regulation tank with capacity of 6000 m^3; distribution network to the 33 towns, in ductile iron, with a length of 250 km and internal diameter between 80 mm and 400 mm, divided into 4 branches or waterways; the construction of new regulation tanks (one for each town) with a capacity of between 50 m^3 and 1,250 m^3; remote control between the outlet and the general regulation tank; connections with local distribution networks; the necessary health and safety certifications as well as environmental procedures; and other smaller actions.

The works required to carry out the project started in March of 2008 and were stopped in March, 2011 due to financial problems because of general cutbacks in public spending and an increase in the budget due to the contingency being spent during the project's implementation.

The project had been prepared with special attention to its technical–economic component. The project contained reports, plans, documents and estimates. The report was made up of a series of technical–economic supplements which refer to the execution and operation of the project, although at no point did they allude to the need for the project itself or the development opportunities it could bring. As the project (clearly blueprint) (Cazorla et al., 2013), omitted the political–contextual and ethical–social components, it

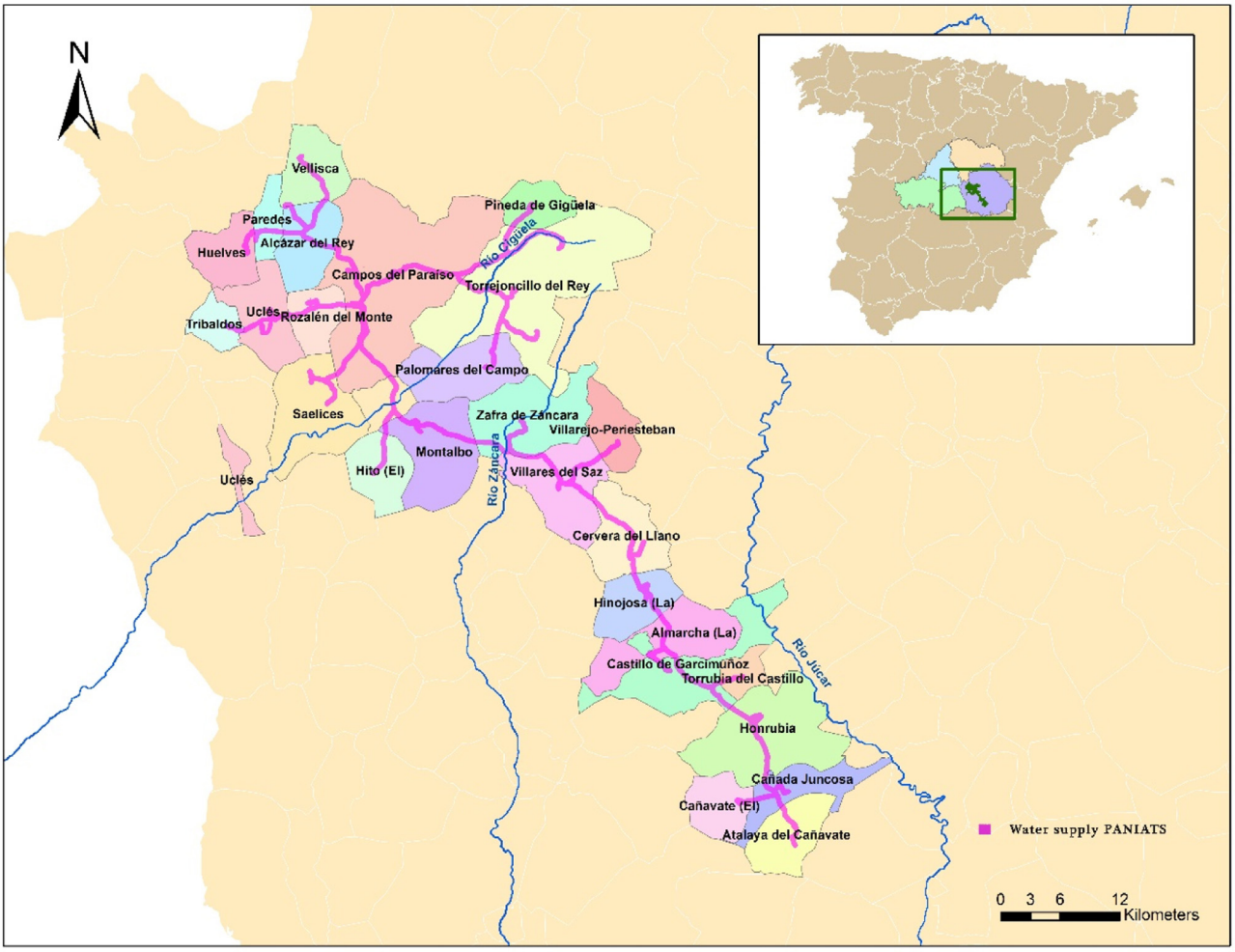

Fig. 1. Areas affected by the PANIATS.

became something which had no further objective other than its original one: the supply of water to the selected towns.

The population and territorial associations were not consulted during the different phases of the project and as a result, did not understand it beyond its basic purpose. This caused a high level of vulnerability, which upon tackling the economic problems leading to the project stopping, didn't generate any interest amongst the population after its reactivation, given that they did not see it as something which could generate development or transform their territory.

The LAG responsible for the area in which the project was implemented (ADESIMAN), did not take part in any of the stages of the project, despite having over 25 years of experience with managing and implementing in its own territory (Diaz-Puente et al., 2012). This situation created indifference and a lack of awareness of the local action group in the face of a project that was "identified by" the highest levels of the administration. The representatives from municipal government were informed about the project through a public consultation; but this consultation only consisted of the submission of the project documentation, thus lacking a public presentation that properly enabled the affected population to understand the project and provide their opinions on it.

After the works were stopped, it became necessary to re-evaluate the project with the aim of restarting it. To achieve this, the project needed to be seen as more than just something which is limited to achieving a specific goal; the project should be considered as being capable of meeting certain needs and offering new development opportunities for the territory it supports. As a result, the importance of the beneficiaries' involvement becomes fundamental.

3. The working with people (WWP) model, tools and surveys from a blueprint project to a transformational project in the territory

This study uses the WWP model and applies it to hydraulic engineering projects (Cazorla et al., 2013) due to the need to involve stakeholders within projects and due to the success this model has had in various studies linked to planning and rural and social development (Sastre-Merino et al., 2013). The WWP model's principle is to develop "by" people and not "for" people. The model has four principles and values: 1) respect and primacy for people; 2) guarantee of social wellbeing and sustainable development; 3) bottom–up planning; 4) an endogenous and integrated approach. The model is based on three components which interact through social learning processes. These three components are: 1) the ethical–social component; 2) the technical–entrepreneurial component; 3) the political–contextual component. The WWP model highlights that it is necessary to identify which of the agents involved are capa-

ble of developing each of these three components, and involve them (Alarcón et al., 2015), in order to make the original project a transformational project in the territory.

The ethical–social component encompasses the context of people's behaviours, attitudes and values who interact in order to promote, manage or direct the project. Within this study, the ethical–social component was seen to be represented by the towns' administrative bodies, the affected population and representatives from entrepreneurial organisations; thus combining the population's values with those of the agents who are able to promote and undertake the change.

The technical–economic component incorporates the key elements in order to visualise the project as an investment unit, a technical tool capable of generating a flow of goods and services, capable of achieving the objectives in accordance with the stipulated requirements and quality standards. Within the PANIATS project, although the technical–economic component was perfectly defined, it was necessary to determine which agents were representing it. In order to do this, experts from the Universidad Politécnica de Madrid were called upon in order to provide their expert knowledge to the transformation.

The political–contextual component includes the key elements required in order for the project to suit the context in which it is implemented. For this study, the ADESIMAN local action group (LAG) was consulted. Thanks to its 24 years of experience with development and entrepreneurial projects in the territory, this local action group has an excellent understanding of the territorial context and the administrative operations that are capable of accomplishing the project's goals (Yague et al., 2013).

Through the working with people components, social capital, entrepreneurial; the population and development agents are integrated into the planning process. As a result, the project meets the territory's needs whilst gaining the ability to transform it.

In order to carry out this task, participative workshops are proposed in which all of the WWP components take part. According to Vidueira et al. (2013) it is necessary to implement evaluation processes that provide an understanding of the state of the components with regards to the project. To achieve this, "empowerment evaluation" workshops (Fetterman, 1994) are used, given the ability this methodology has when it comes to evaluating and planning (Fetterman and Wandersman, 2007) through social learning).

Three Empowerment Evaluation workshops were carried out so that the representatives of each of the three components could interact, evaluating the project whilst proposing different options for it. The workshops took place in the municipality of Villarejo–Periesteban, which volunteered itself, and has been used as a pilot case study for this article. These workshops were structured in the following stages, represented by each of these questions: a) what actions or possibilities can the project offer me? (this question aims to position the project beyond simply its rational objectives, whilst viewing it as a transformational factor; b) prioritisation of these actions. During this stage, representatives from the three components define the actions with the aim of prioritising them; c) evaluation of actions based on their feasibility, potential and possible results; d) new challenges, project re-planning. During this stage, the actors re-plan the project according the agreed actions.

In order to understand the population's perception regarding the project, a series of surveys were carried out for the workshop attendees to share their feedback on the initial (ex-ante) and subsequent (ex-post) stages of these projects. The ex-ante questions are shown in Table 1 and aim to analyse stakeholders' opinions as well as their level of understanding and involvement in terms of the original project; and the ex-post questions, shown in Table 2, aim to understand the impact the model has had when it has been applied to the project. In order to facilitate the subsequent analysis, the responses are organised using a Likert scale from 1 to 5; in which a score of 1 means "completely disagree", 2 means "disagree", 3 means "neither agree nor disagree", 4 means "agree" and 5 means "completely agree". Cronbach's alpha was used as the method for measuring the reliability of the sample (Sijtsma, 2009), in order to rate the extent to which items on the same scale are assessing a common concept. These surveys were carried out amongst 42 participants in the workshops and have been validated in terms of reliability based on a Cronbach's alpha of 0.77 for the ex-ante survey and 0.71 for the ex-post survey, which are considered acceptable (Yang et al., 2011).

The WWP model not only involves effective project planning and management, it also enables: (1) the study of new opportunities, alternatives and projects related to it (Fontana et al., 2015), (2) an increase in the territory's social capital through new associations and relationships that have arisen thanks to these projects and options (Sastre-Merino and De Los Ríos-Carmenado, 2013), (3) social development as a result of economic, social, environmental and other changes in the territory itself (Midgley, 2014) and (4) the establishment of social learning which will be incorporated in future planning processes (Herrán et al., 2015). Ultimately, the model steers us towards a gradual transformation of the territory, in which the new project that has derived from the original blueprint project forms the basis of said transformation, thus becoming a transformational factor in the territory (see Fig. 2)

4. Results

During the workshops different activities took place in order for the project to have an impact on the territory's development, considering relevant questions that the original (blueprint) project had not analysed, such as the territory's agricultural potential and the fact that a centralised supply project such as the PANIATS meant that the actual supply sources in the municipalities, mainly wells, became obsolete and destined for closure and neglect. As a result, plans were laid out to reutilise water from the wells for agricultural purposes, so that the original supply project could transform part of the terrain across the affected municipalities into irrigated land.

This transformation would generate a total of 2089 ha of irrigated land in the 33 affected areas, using a crop that is well-known by the affected population (such as corn), with an estimated annual consumption of 2500 m^3/year in the area being studied.

In order to manage the demand from users in the affected aquifer's user community, and to provide reliable and timely information regarding the supply and demand of available water, the use of the existing water bank is proposed. Its main objective is to improve the efficiency of the allocation of rights and drive sustainability, achieving a joint objective (environmental and economic), serving as the aquifer or body of water's hydraulic balance for overexploitation. The water bank will aim to: (a) monitor the reasonable use of water (maximum annual consumption of 2500 m^3/ha; (b) administer users; (c) maintain the agricultural infrastructure; d) establish continuous improvement plans (both environmental and economic). Therefore, through this association the territory's social capital increases and social learning is promoted which will become a drive for new projects.

As well as a revaluation of the price of the 2089 ha (Ministerio de Agricultura, 2013), the transformation of irrigated land leads to an increase in its productive capacity, as well as the annual exploitation benefits. Therefore, by involving stakeholders, the original blueprint project generates community economic development which leads to an increase in the territory's social development.

The survey results show us how the perception of the project amongst the representatives of the three WWP components has changed considerably. The results of the ex-ante survey (Table 3)

Table 1
Ex-ante survey questions. Compiled by various authors.

Ex-ante
I completely understand the project
The project is going to benefit me
The specialists have explained the project to me
The project management has been efficient (timings, costs. . .)
The population and territorial associations have been considered when it comes to executing and implementing the project
The project has incorporated the development needs of the territory it is serving
Development options have been suggested to us once the project is finished

Table 2
Ex-post survey questions. Compiled by various authors.

Ex-post
I have got a vision beyond the project itself
The project provides benefits and transforms the territory
The project is necessary
The project should have encouraged greater involvement from stakeholders
The opportunities that have arisen are exciting and attractive
I believe it is necessary, and I am willing to collaborate in order to make the project (and its opportunities) possible
These new opportunities will contribute to the development of my territory

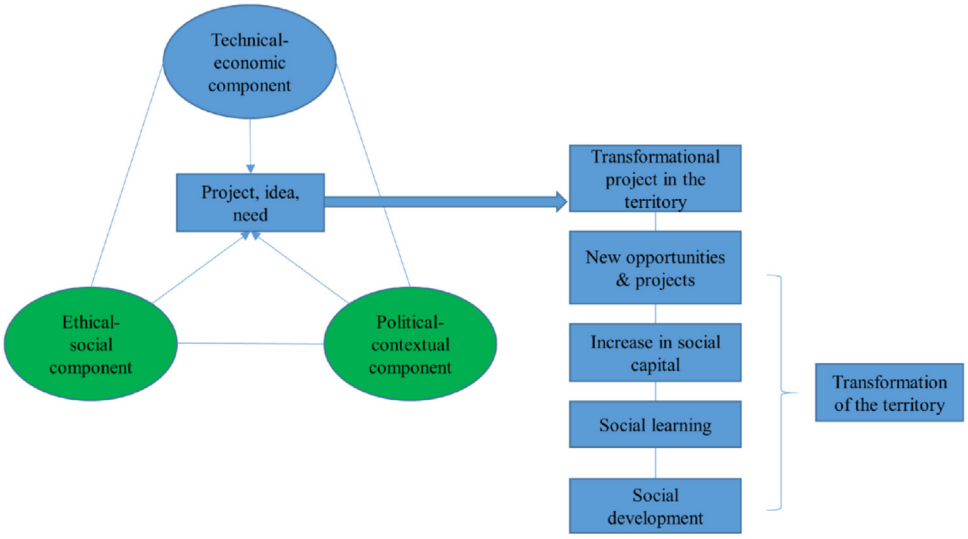

Fig. 2. Towards a transformational project in the territory.

Table 3
Results of the ex-ante survey. Prepared by the authors.

Items	Average scores
I completely understand the project	1.75
The project is going to benefit me	1.79
The specialists have explained the project to me	1.46
The project management has been efficient (timings, costs. . .)	2.14
The population and territorial associations have been considered when it comes to executing and implementing the project	1.54
The project has incorporated the development needs of the territory it is serving	2.07
Development options have been suggested to us once the project is finished	1.39

Table 4
Results of the ex-post survey. Prepared by the authors.

Items	Average scores
I have got a vision beyond the project itself	3.96
The project provides benefits and transforms the territory	3.88
The project is necessary	4.13
The project should have encouraged greater involvement from stakeholders	3.88
The opportunities that have arisen are exciting and attractive	3.88
I believe it is necessary, and I am willing to collaborate in order to make the project (and its opportunities) possible	4.00
These new opportunities will contribute to the development of my territory	4.00

show that: the population affected by the project were not informed of what was involved, there was disapproval with the way it was managed, there was a lack of involvement from territorial associations, there was no visibility in terms of the benefits that the project could bring for the territory, and the project was not integrated in a development plan within the territory. However, the results of the ex-post survey (Table 4) show the increase in awareness and transformational perception of the project amongst stakeholders.

The results of the ex-ante and ex-post surveys shows that there is a new perception of the project, thanks to the workshops and WWP model. This new perception has created empowerment amongst the population which becomes an active driver for changing the old blueprint project into a transformational project for the territory.

5. Conclusions

The article shows a desire to improve blueprint-style hydraulic projects, in which the technical–economic component predominantly prevents the complete integration of the territory's needs within the project. The article concludes that all the activity within a specific territory creates change within it; something which the technical–economic component is not capable of. In addition, if we also consider the social character that the hydraulic projects have to stimulate new opportunities for the territory, we can conclude that the traditional hydraulic project planning, implementation and management model (still present in several countries) is inadequate and requires new ways of working.

The involvement of stakeholders and local action groups in the project, through the working with people components, becomes fundamental. The local action groups show themselves to have the best understanding of the territory, as their active presence provides seasoned knowledge in order to contextualise the transformation; furthermore, the internalisation of the project by those affected strengthens it. As a result of active participation from all the WWP components, the project provides new opportunities for the territory in which it is based, and is able to revitalise it.

The article presents the first application of the WWP model in hydraulic engineering projects, concluding that the WWP methodology is suitable for this type of project; whilst also showing how the model not only creates transformational projects, but also converts blueprint projects into transformational projects based on a combination of the 3 components through social learning processes.

The concept of a "transformational project for the territory" is used for all those projects which, in addition to achieving the objectives they set out to deliver, are able to generate new projects or opportunities that increase the available social capital of the territory, generating social development. This article reemphasises the need to study and introduce social variables when it comes to implementing hydraulic engineering projects.

References

Alarcón, M.D.M., De Los Rios-Carmenado, I., De Nicolás, V.L., 2015. The culture of risk prevention in madrid based on final work at universities: a new educational dimension from the WWP model. Procedia—Soc. Behav. Sci. 191, 2307–2311.

Andolina, R., 2012. The values of water. Development cultures and indigenous cultures in highland Ecuador. Lat. Am. Res. Rev. 47 (2), 3–26.

Argyris, C., Schön, D.A., 1978. 1st ed. In: Organisational Learning: A Theory of Action Respective. Addison Wesley, Boston, MA.

Berkes, F., 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. J. Environ. Manag. 90 (5), 1692–1702.

Butler, C., Adamowski, J., 2015. Empowering marginalized communities in water resources management: addressing inequitable practices in participatory model building. J. Environ. Manag. 153, 153–162.

Cazorla, A., De Los Ríos, I., Salvo, M., 2004. 1st ed. In: Trabajando Con la Gente: Modelos Para Un Desarrollo Rural y Local. Escuela Técnica Superior de Ingenieros Agrónomos, Madrid.

Cazorla, A., De los Ríos, I., Díaz-Puente, J., 2005. The leader community initiative as rural development model: application in the capital region of Spain. Agrociencia 39 (6), 697–708.

Cazorla, A., De Los Ríos, I., Salvo, M., 2013. Working With People (WWP) in rural development projects: a proposal from social learning. Cuad. Desarro. Rural 10 (70), 131–157.

Cleland, D.I., King, W.R., 1975. System Analysis and Project Management, 1st ed. McGraw-Hill Book Company, New York.

De los Ríos, I., Cazorla, A., Díaz-Puente, J., Yagüe, J., 2010. Project-based learning in engineering higher education: two decades of teaching competences in real environments. Procediaí—Soc. Behav. Sci. 2 (2), 368–1378.

De Nicolás, V.L., Laguna-Peñuelas, F., Vidueira, P., 2014. Criterio para la optimización energética de redes ramificadas de agua. Water Technol. Sci. 5 (6), 41–51.

Cazorla, A., De Nicolas, V.L., 2015. Planning and projects: three visionaires Friedmann, J., Trueba, I. and Ramos, A. In: Ayuso-Muñoz, Yague-Blanco, Capuz-Rizo (Eds.), Project Management and Engineering Research, 2014. Springer, New York.

Diaz-Puente, J.M., Gallego-Moreno, F.J., Zamorano, R., 2012. Training as a tool for community development: 25 years of experience in sparsely populated rural areas in Cuenca, Spain. Perspect. Educ. 30 (2), 12–21.

Elijah, B., Susan, J., Elliotta, J., Schuster-Wallaceb, D.M., Karanjac, A.B., 2014. Social capital: collective action and access to water in rural Kenya. Soc. Sci. Med. 119, 147–154.

Ferro, G., Lentini, E., 2012. Infraestructura y equidad social: Experiencias en agua potable, saneamiento y transporte urbano de pasajeros en América Latina. Publicacion de las Naciones Unidas. 158, 1–65.

Fetterman, D.M., 1994. Empowerment evaluation. Eval. Pract. 15 (1), 1–15.

Fetterman, D., Wandersman, A., 2007. Empowerment evaluation yesterday, today, and tomorrow. Am. J. Eval. 28 (2), 179–198.

Fontana, A., Sastre-Merino, S., Baca, M., 2015. The territorial dimension: the component of business strategy that prevents the generation of social conflicts. J. Bus. Ethics, 1–14.

Franzen, F., Hammer, M., Balfors, B., 2015. Institutional development for stakeholder participation in local water management—an analysis of two Swedish catchments. Land Use Policy 43, 217–227.

Granados, A., 1995. 1st ed. In: Infraestructura de Regadíos. Redes Colectivas De Riego A Presión. Publicaciones de la E.T.S.I. Caminos, Canales y Puertos, Madrid.

Graveline, N., Aunay, B., Fusillier, J.L., Rinaudo, J.D., 2014. Coping with urban & agriculture water demand uncertainty in water management plan design: the interest of participatory scenario analysis. Water Res. Manag. 28 (10), 3075–3093.

Herrán, J., De Nicolás, V.L., Vidueira, P., 2015. Knowledge-action Integration Through the Media in Indigenous Communities in Ecuador,. ProcediaáSoc. Behav. Sci. 191, 1442–1447.

Hulme, D., 1999. Learning and not learning from experience in rural project planning. Pub. Adm. Dev. 9 (1), 1–16.

IPMA, 2010. 1st ed. In: NCB Bases para la Competencia en Dirección de Proyecto Versión 3.1. Aeipro, Valencia.

Kołomycew, A., 2011. Local action groups as an example of sectoral partnerships at the local level. In: The Scale of Globalization. Think Globally, Act Locally, Change Individually in the 21st Century. University of Ostrava, Ostrava, pp. 143–149.

Koontz, T.M., Newig, J., 2014. From planning to implementation: top–down and bottom–up approaches for collaborative watershed management. Policy Stud. J. 42 (3), 416–442.

Lee, J.L., 2006. 1st ed. In: Water Management, Livestock and the Opium Economy: Social Water Management. Afghanistan Research and Evaluation Unit, Kabul.

Leidel, M., Niemann, S., Hagemann, N., 2012. Capacity development as a key factor for integrated water resources management (IWRM): improving water management in the Western Bug River Basin, Ukraine. Environ. Earth Sci. 65 (5), 1415–1426.

Midgley, J., 2014. Desarrollo Social: Teoría y Práctica, 1st ed. Abya Yala, Madrid.

Ministerio de Agricultura, 2013. Encuesta precious tierra. Available from: http://www.magrama.gob.es/es/estadistica/temas/estadisticas-agrarias/Encuesta_Precios_Tierra_2013_tcm7-349643.pdf.

Ministerio de Agricultura, 2015. Planificación Hidrológica. Available from: http://www.magrama.gob.es/es/agua/temas/planificacion-hidrologica/planificacion-hidrologica/.

Mostert, E., Craps, M., Pahl-Wostl, C., 2007a. Social learning: the key to integrated water resources management? Water Int. 33 (3), 293–304.

Mostert, E., Pahl-Wostl, C., Rees, Y., Searle, B., Tábara, D., Tippet, J., 2007b. Social learning in European river basin management; barriers and fostering mechanisms from 10 river basins. Ecol. Soc. 12 (1), 1–19.

Pahl-Wostl, C., Craps, M., Dewulf, A., Mostert, E., Tabara, D., Taillieu, T., 2007. Social learning and water resources management. Ecol. Soc. 12 (2).

Red Rural Nacional, 2011. 1st ed. In: LEADER En Epaña (1991–2011). Una Contribución Activa Al Desarrollo. Ministerio de Medio Ambiente y Medio Rural y Marino, Madrid.

Reed, M.S., 2008. Stakeholder participation for environmental management: a literature review. Biol. Conserv. 141, 2417–2431.

Sastre-Merino, S., Negrillo, X., Hernández-Castellano, D., 2013. Sustainability of rural development projects within the working with people model:

application to Aymara women communities in the Puno Region. Peru. Cuad. Desarro. Rural 10 (70), 219–243.
Sijtsma, K., 2009. On the use, the misuse, and the very limited usefulness of Cronbach's alpha. Psychometrika 74 (1), 107–120.
Trueba, I., Morales, J., 2011. Concepto de Proyecto: Lecciones de experiencia. In: AEIPRO (Eds.), XV Congreso Internacional de Ingeniería de Proyectos: Actas del XV Congreso Internacional de Ingeniería de Proyectos, 2011 August 6–8. Huesca, Spain. AEIPRO, Huesca, pp. 337–350.
Vidueira, P., Diaz-Puente, J.M., Afonso, A., 2013. The worldwide expansion of evaluation: a world of possibilities for rural development. Cuad. Desarro. Rural 10 (70), 159–180.
Webler, T., Renn, O., 1995. A brief primer on participation: philosophy and practice. In: Renn Webler, O.T., Wiedemann, P. (Eds.), Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse. Springer, Dordrecht/Boston, pp. 17–33.
Wolfe, S.E., 2010. A social capital assessment of canadian community's water management strategy. Environ. Pract. 12 (3), 214–226.
Westlund, H., 2014. In: Kobayash, K.K., Syabri, I., Ari, I.R.D., Jeong, H. (Eds.), Social Capital and Governance for Efficient Water Management. IWA Publishing, London, pp. 59–68.
Yague, J.L., De Nicolas, V.L., Martinez, J.L., 2013. Leader rural development program in spain: profile and functions of workers in local action groups. Rural Dev. 6 (1), 543–547.
Yang, L.R., Huang, C.F., Wu, K.S., 2011. The association among project manager's leadership style, teamwork and project success. Int. J. Proj. Manag. 29 (3), 258–267.
Zajda, K., 2014. New Forms of Social Capital of Rural Areas. A Case Study of Selected Polish Local Action Groups, 1st ed. LAP, London.

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