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STRENGTHENING SMALLHOLDER PRODUCERS' SKILLS AND MARKET ACCESS

PRODUCTIVE ALLIANCE
PROGRAMME IN CHILE



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STRENGTHENING SMALLHOLDER PRODUCERS' SKILLS AND MARKET ACCESS

**PRODUCTIVE ALLIANCE
PROGRAMME IN CHILE**

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Abstract

This study analyses the impact of Chile's Productive Alliance Programme (PAP) in terms of human capital development among small farmers. The programme, originally created in 2007 and serving now close to 3 600 small farmers in Chile, enhances the creation of commercial partnerships between these small farmers and larger companies, and funds and facilitates the conditions for farmers' acquisition of skills and human capital to ensure its success. Drawing from 36 semi-structured interviews of companies and small farmers, and a survey of 87 PAP users, of which 81 were completed, our main findings show that by providing targeted training on market requirements, farm and risk management and sustainable use of resources, the programme enables producers to establish a stable commercialization alliance with buyers, and improves the productive capacity of small-scale farmers in terms of technical and administrative knowledge, equipment and infrastructure.

Although the improvement of small-scale farmers' capabilities may not always be reflected in an increase in quantity produced or income, participants improved their production practices and strengthened their managerial skills. However, while the programme has successfully inserted the producers in a commercialization circuit, it has not reduced the climatic and other risks to which small producers are exposed. Moreover, our results seem to suggest that INDAP's role is key in maintaining the alliance and for the success of the programme, posing the question of whether buyers and especially small farmers are able to acquire all necessary skills to autonomously maintain this alliance over time without this governmental intervention.

Moving forward, two important modifications to the programme are recommended. First, to allow small farmers to directly apply for PAP, so as to lower the barriers associated with the programme entry and increase its impact; and second, we propose that the training that is offered is adapted to consider the previous experience between the parties, so that it does not repeat itself every four years when the alliance is renewed, allowing for human capital growth over time. We believe the findings are of interest to decision-makers, policy-makers and researchers.

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Abbreviations and acronyms

AHCI	Agriculture Human Capital Investment
ASTI	Agricultural Science and Technology Indicators
CIGAR	Consortium of International Agricultural Research Centres
CLP	Chilean Peso
EAC	Farmers Associative Companies
FAO	Food and Agriculture Organization
ICT	Information and Communication Technology
IFI	International Financing Institution
IFPRI	International Food Policy Research Institute
INDAP	Instituto de Desarrollo Agropecuario (National Agriculture Development Institute)
OECD	Organisation for Economic Co-operation and Development
PADIS	Agricultural Programme for the Integral Development of Small Farmers
PAE	Economic Associativity Programme
PAP	Productive Alliance Programme
PDTI	Territorial Indigenous Development Programme
PIM	Programme on Policies, Institutions and Markets
PRODEMU	Rural Women Programme
PRODESAL	Local Development Programme
SAT	Technical Advisory Service



Introduction

Sustainable agricultural productivity, food security and poverty reduction remain top-line goals of governments and development institutions around the world. Progress is under threat from a variety of crises including climate change and public health emergencies and their associated economic shocks. Along with a growing population and increased demand for agricultural goods for food, fuel and fibre, these concerns necessitate investments in agriculture, rural infrastructure, natural resource management and climate resilience.

Agricultural investments often emphasize physical and financial capital of farming households – for example, land, fertilizers or credit. However, agriculture human capital investment (AHCI) is crucial for spurring innovation, farm management decisions and empowering smallholders. Human capital is an economic term which encompasses assets that increase individual productivity, such as education and health. For the purposes of this study, human capital is defined as the stock of habits, knowledge, social and personality attributes (including creativity) embodied in the ability to perform labour so as to produce economic value (Goldin, 2016). Human capital allows people to effectively utilize other types of capital. For example, farmers' education and knowledge influences their ability to make decisions, adopt new technologies, evaluate risks and manage farm resources.

As part of a global study on promising AHCI initiatives, this case study presents evidence from the Productive Alliance Programme (PAP) in Chile. The global study, commissioned by the Food and Agriculture Organization of the United Nations (FAO) and led by the International Food Policy Research Institute (IFPRI) with support from the Consortium of International Agricultural Research Centres (CGIAR) Research Programme on Policies, Institutions, and Markets (PIM), examines opportunities for both public and private investment in human capital in agriculture. This study aims to fill knowledge gaps about promising investments in programmes that develop agriculture human capital, particularly across different target groups such as smallholders, women and youth.

Case studies were selected according to a set of criteria following a broad assessment using a literature review and expert input. The criteria included:

- documentation of impact;
- scalability, replicability and institutionalization;
- inclusion and empowerment;
- holistic integration; and
- sustainability.

Nine case studies were selected across geographies and were framed under a precise definition of agriculture human capital. The selection process involved a series of workshops during which technical experts discussed potential cases, case study selection and case study teams.¹ This particular case study analyses the effects of the Productive Alliance Programme (PAP); a training and support programme designed to boost human capital and to increase productivity among small farmers in Chile.

The model of agricultural human capital investment in this programme is based on the commercial alliance between purchasing companies and small-scale farmers, mediated by the Government through Chile's National Agriculture Development Institute (INDAP). This alliance is strengthened with technical monitoring that purchasing companies provide to producers, and by government support to companies and producers to develop capacities across a broad array of small farmers.

¹ For more information on this process and for a detailed description of the typology, see: (Davis, Gammelgaard, Preissing and Gilbert, 2020).





Chapter 1

Background

Chile is one of the fastest growing economies in Latin America and has reduced poverty significantly over the last three decades (Abner Campos and Foster, 2013; Agostini, Brown and Góngora, 2008; Cazzuffi, Pereira-López and Soloaga, 2017).

According to World Bank statistics (available here: data.worldbank.org/country/chile) Chile's GDP has grown from USD 77.8 billion in 2000 to USD 282.3 billion in 2019, and its income per capita reached USD 25 155 in 2019. Between 2006 and 2017, monetary poverty decreased by more than 20 percentage points, and extreme poverty by 10 percentage points. In 2017, the monetary poverty headcount ratio sat below 9 percent (8.6 percent), and the extreme monetary poverty headcount ratio was 2.3 percent (Ministerio de Desarrollo Social, 2018). Rural monetary poverty, however, remains significantly above the national average at 16.5 percent. And despite its GDP growth and its progress towards poverty reduction, Chile remains one of the most unequal economies in the Organisation for Economic Co-operation and Development (OECD).

Just as with economic growth and poverty reduction indicators, health and education indicators have also improved over time. In 2018, life expectancy at birth reached 80 years, and the mortality rate was at 6.2 per 1 000 live births, one of the lowest in Latin America and the Caribbean. Undernourishment is low, but overweight and obesity among children and adults has become a more relevant issue: 9.3 percent of children under five are overweight, and this increases to 52 percent when looking at all school-age children (JUNAEB, 2019). With respect to education, literacy rates are above 96 percent of the population, and the population has, on average, almost 13 years of schooling (Ministerio de Desarrollo Social, 2018). Similarly, Chile's Human Capital Index reached the value of 0.65 in the 0-1 scale in 2020, consolidating the country at the top of the rank in Latin America (World Bank, 2020).

Despite having a higher incidence of poverty, rural areas have experienced important economic growth, very significant growth in exports and a marked reduction in poverty over the last decades (Foster *et al.*, 2016; Lopez and Anriquez, 2004). This process has been accompanied by important

urbanization of rural areas (Berdegué *et al.*, 2015) and a significant reduction in the number of jobs associated with agriculture (Perez, Valdes and Foster, 2020; Valdes *et al.*, 2008). Chile has experienced roughly a 5 percent average increase in agricultural value added during the last few decades, which has increased total agricultural workers' income by 1.64 percent between 1990 and 2006 (Valdes *et al.*, 2008) or 2.3 percent on average between 1998 and 2017 (Perez, Valdes and Foster, 2020). Whereas conventional wisdom has assigned this success to an aggressive export diversification and trade openness, recent studies have shown that this is indeed the result of the active role of industrial policy, which has acted crucially in boosting human capital, amongst other aspects, to ensure an stable environment for exports (Lebdioui, 2019).

The Chilean government's support for agriculture is weak and one of the lowest among OECD countries (Ortega and Valdés, 2019). Agriculture expenditure represents 5 percent of total government spending, and an equivalent of only 0.5 percent of the agricultural GDP is spent in agricultural research and development. Finally, the country does not have a national agricultural investment policy, but several sectoral investment programmes allocated to, or across, different governmental agencies such as the National Agriculture Development Institute (INDAP in Spanish), analysed here.

Table 1**Key agricultural, human capital, and enabling environment indicators in Chile**

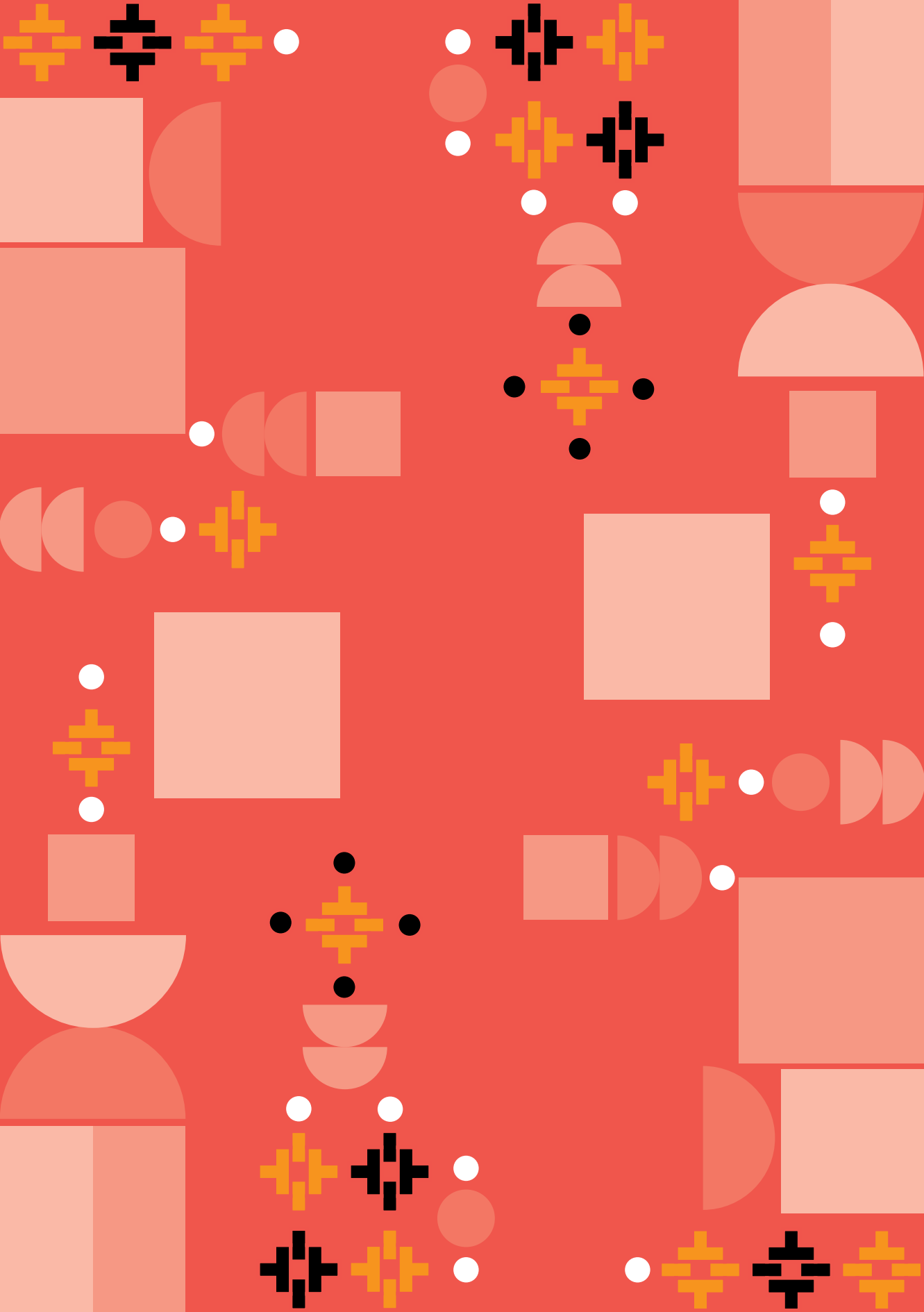
Indicator category	Indicator name	Latest year data available	Indicator value
General	Total population	2019	19 458 310
	Rural population (% of total population)	2019	12.4
	Number of smallholder/family farmers	2007	219 987
	Participation of family farmers in agricultural production (%)	2007	78.9
	Poverty headcount ratio at USD 1.90 (%)	2017	0.3
	Poverty headcount ratio at national poverty line (%)	2017	8.6
	Rural poverty headcount ratio at national poverty line (%)	2017	16.5
	Prevalence of undernourishment (%)	2017	2.7
	Human Capital Index (HCI) score	2017	0.674
	Expected years of school, total	2018	16.5
	Expected years of school, male	2018	16.3
Enabling environment: Educational attainment	Expected years of school, female	2018	16.8
	Primary completion rate, total	2017	94.75
	Literacy rate, adult total (% of people ages 15 and above)	2017	96.40
Enabling environment: Funding	National agricultural and innovation system support as share of agricultural GDP	2018	0.5
	Agriculture expenditure (% of total spending)	2017	5.0
Enabling environment: ICT-related indicators	Mobile cellular subscriptions (per 100 people)	2018	134.4
	Secure internet servers (per 1 million people)	2019	11 013.7
	Access of electricity (% of population)	2018	100
Enabling environment: Policies	Have a National Agriculture Investment Plan/Policy		No

NOTE: Poverty headcount ratio indicates the percent of the population living on less than USD 1.90 per person per day in 2011 PPP. Agriculture expenditure indicator comes from FAOSTAT's Government Expenditure data (share of total outlays).

SOURCES: World Bank, ASTI, FAOSTAT, (Ministerio de Desarrollo Social, 2018), Chile's National Statistics Institute (INE).







Chapter 2

Overview

HISTORY OF THE CASE STUDY

The National Agriculture Development Institute (INDAP) is part of the Ministry of Agriculture. It was created in 1962, with the aim of promoting the economic, social and technological development of small farmers; contributing to increase their managerial, organizational and commercial abilities, promoting their participation in the process of rural development and improving their efficient use of productive resources (INDAP, 2020).

INDAP defines small farmers as individuals operating a land area of up to 12 hectares, with basic irrigation infrastructure and a total value of assets below CLP 100 million (around USD 150 000), whose main income source is agriculture and who are directly engaged in agricultural production, regardless of their land tenure (INDAP, 2020).² In 2019, INDAP had 164 896 participants. Berdegué and Rojas (2014) estimated the population of small-scale family farms to be approximately 220 000 in 2007, using the 2007 Agricultural Census, which remains the most recent available census to date. Based on these data, we estimate that in 2019 about 75 percent of small farmers were participating in one of INDAP's programmes.

The Productive Alliance Programme (PAP) was created by INDAP to promote sustainable commercial linkages between small-scale farmers and larger, typically export-oriented, companies in agriculture, agroforestry and other associated industries (agrotourism, craftsmanship and added value service sectors). The programme was created in 2007 by adapting the Providers Development Programme from the Chilean Economic Development Agency (CORFO)³ for the INDAP user profile. PAP's purpose is to "Generate conditions for small-scale farmers and agro-producer members of INDAP, to access better commercial alternatives and new markets in order to contribute for improved sustainable and transparent commercial relations with purchasing groups" (INDAP, 2020). In that sense, this programme looks first

² These definitions, which are made for the totality of INDAP users, remain the same for PAP users.

³ Chilean agency depending on the Ministry of Economy, Development and Tourism in charge of supporting entrepreneurship, innovation and competitiveness, strengthening human resources and technological capabilities.

to eliminate informal intermediaries between small farmers and purchasing companies, by establishing a direct commercial link between them. Secondly, it seeks to strengthen small-scale farmers' capacity as permanent suppliers to purchasing companies, developing their ability to comply with high-standard production and safety according to market requirements.

PAP began with a pilot programme focusing on technical assistance for two products across three geographical areas: sheep farming in the O'Higgins and Maule regions and berry production in the O'Higgins and Bío-Bío regions. In 2009 the programme was formalized and started to operate with its own regulations and procedures, and later in 2010 it was expanded to reach 10 of the 16 administrative regions in the country, from Coquimbo to Los Lagos. The majority of PAP users are located in the Maule region, to the south of Santiago (see Figure 1).

In 2018, regulations of the programme changed to expand its size and scope. As a result, the programme now operates with increased resources, has an investment fund to complement the initial technical assistance component, and involves value chains beyond food, including sectors like rural tourism and crafts. The investment fund consists of a lump sum that PAP users can apply for to help finance investment projects, for instance irrigation or storage infrastructure, that enable them to comply better with buyers' requirements.

The new regulations also allow PAP participants to simultaneously participate in other INDAP programmes. In 2019, 43 percent of PAP users received complementary support from technical assistance programmes like SAT (Technical Advisory Service), PRODESAL (Local Development Programme), PDTI (Territorial Indigenous Development Programme), PRODEMU (Rural Women Programme) and PADIS (Agricultural Programme for the Integral Development of Small Farmers), as shown in Table 2. In the same year, about 40 percent of PAP users also received small-scale loans from INDAP, and 5 percent received funding for irrigation programmes (INDAP, 2020).

Aside from the main programmes described above, other INDAP initiatives also interact with PAP in a significant way. Some examples of these initiatives are the Farmers Associative Companies (EAC) and the Economic Associativity Programme (PAE), both intended to foster association between farmers. In 2019, 15 EAC participated in PAP as buyers and six of them received funding from PAP to provide farmers with specialized technical assistance in management and associativity issues.

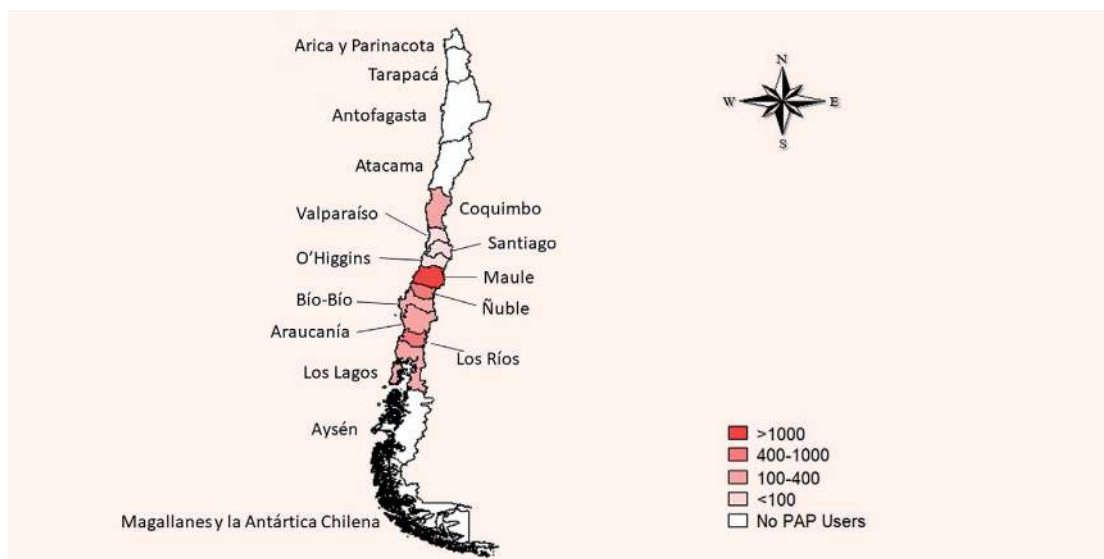


Figure 1
Chile PAP Participants, 2015

NOTE: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

SOURCE: Authors' elaboration with data from INDAP's Users Baseline Survey 2015.

Table 2
Share of PAP users participating in PAP and in other INDAP programmes

Users	Only PAP	PAP + Technical Advisory Service (SAT)	PAP + Local Development Programme (PRODESAL)	PAP + Territorial Indigenous Development Programme (PDTI)	PAP + Other programmes (PADIS/ PRODEMU)	Total
Number	2 053	546	839	156	2	3 596
Share (%)	57.1	15.2	23.3	4.3	0.1	100

SOURCE: INDAP, 2020.

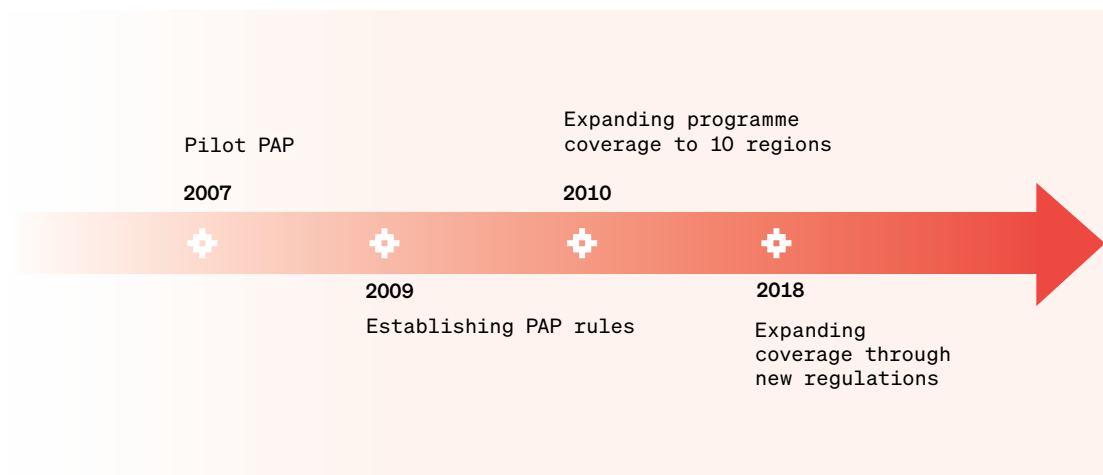


Figure 2
Timeline of Productive Alliance Programme

SOURCE: Authors.

Table 3
PAP users by region, 2019

Region	Companies	Agreements	Users
Coquimbo	2	2	170
Valparaíso	1	1	48
Metropolitan Region	1	2	66
O'Higgins	1	2	77
Maule	23	42	1464
Ñuble	11	11	526
Bío-Bío	5	6	242
Araucanía	7	7	336
Los Ríos	10	12	483
Los Lagos	5	5	184
Total	66	90	3 596

NOTE: The total number of different companies participating in PAP is 54. Some of these companies, however, participate in more than one region, increasing the total to 66.

SOURCE: INDAP, 2020.

It is important to note that PAP farmers are a diverse group in terms of production, with products ranging from fruits, especially berries, to rural tourism, crafts, vineyards and others. Despite this heterogeneity, most of the PAP producers orient their production to berries (28 percent), honey (17 percent), vineyards (11 percent), dairy (10 percent) and beef cattle (6 percent). The full distribution of products and their relative importance in terms of PAP producers is shown in Table 4.

IMPLEMENTING ORGANIZATIONS

As stated in its name, the programme creates a commercial relationship between purchasing companies⁴ and small-scale producers, organized by INDAP. In 2019, 54 buyers and 3 596 small-scale producers joined the programme with 90 active agreements. Companies could have more than one agreement and each agreement incorporates a limited number of producers (see Table 3). Many companies have local presence in several regions with different agreements in each one.

The agreement consists of a four-year work plan where all three actors (INDAP, small farmers, and buyer companies) participate. This plan includes organizing a variety of activities for producers, such as technical consultancies on production management, training activities on commercial and technical issues, laboratory testing for disease detection, and international meetings and workshops, all provided by buying companies. PAP represents the formalization of this commitment, which also includes the economic contribution of each partner for implementing the agreement. Importantly, the agreement does not operate as a binding commercial contract between buyers and small-scale producers, which means that each party has no obligation to either buy or sell. Producers may leave the alliance at any time and sell to other buyers, but in practice most producers develop loyalty to the purchasing company.⁵

The process of generating an agreement typically starts with an interested buyer submitting a technical, methodological and financial proposal to INDAP. Once the proposal is approved, INDAP and the buyer work together to identify potential partners among local small-scale farmers. Producers are not randomly assigned to the programme, but carefully selected by INDAP and purchasing companies. Thus, most of the selected producers are former users of INDAP or small-scale farmers that were already selling to the purchasing companies. This means that vulnerable small-scale farmers or farmers not enrolled in any of INDAP's programmes may not easily be a part of PAP.⁶

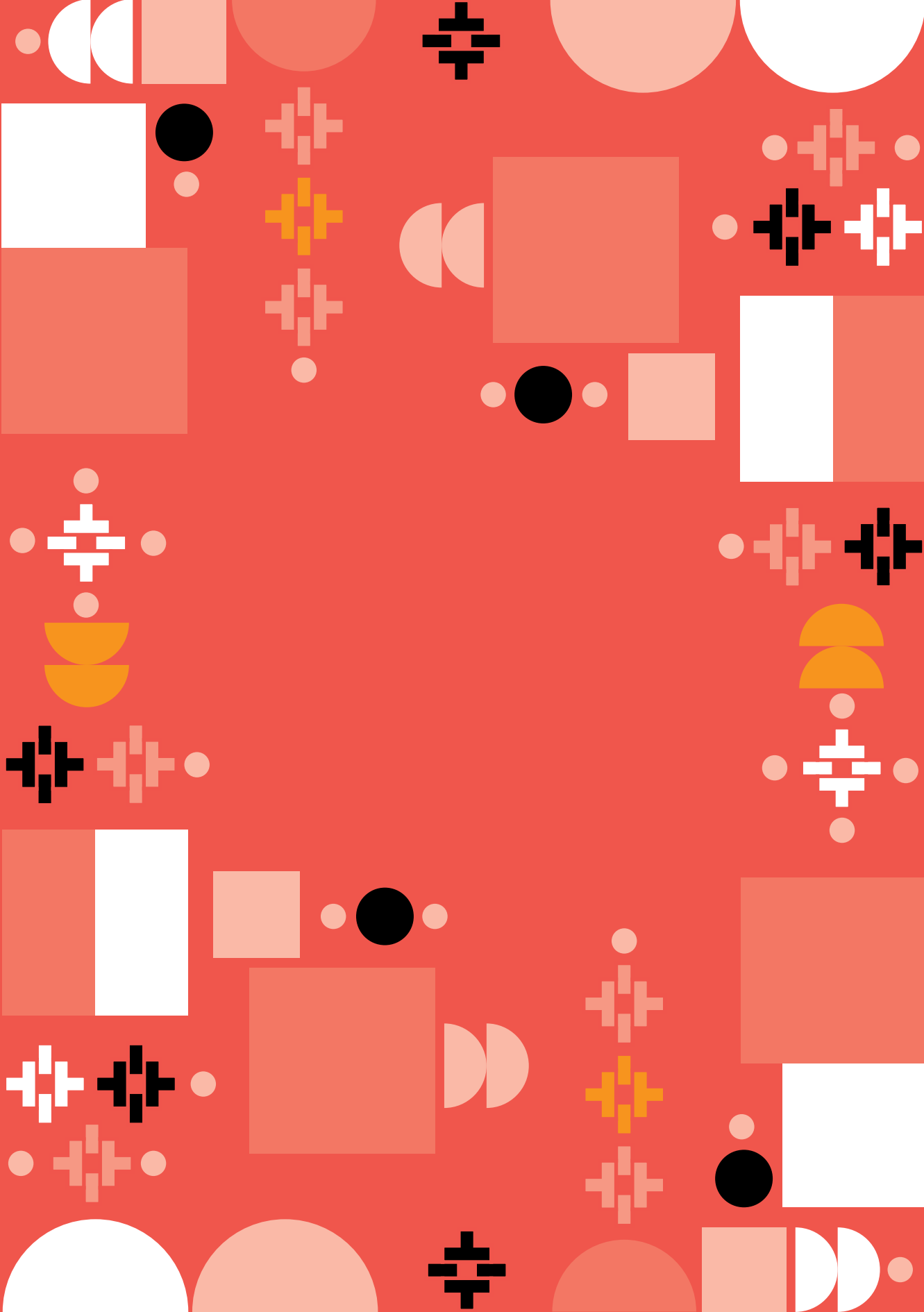
- 4 There is not enough qualitative data to make a more thorough characterization of these commercial actors. Very few individuals from companies were interviewed in the context of this project, so we are unable to make any claims regarding the size, ownership and business orientation of these companies.
- 5 It is important to note that there is not a standardized methodology that can be understood as a means for developing skills in farmers. Although the interviews do shed some light on how this training is carried out in practice, it seems to be specific to the farmer's situation (such as help with disease control and crop management), but no further information on the trainers, the nature of the meetings or highly specific training data was captured.
- 6 Unfortunately, we do not have further information on how these commercial alliances are forged. There does not seem to be a systematic mechanism through which producers are assigned to companies. Through the data collected in the interviews, an "agreement" is mentioned in which INDAP only acts as an intermediary that formalizes the relationship. The terms of the collaboration are specific to each agreement, and there are no guidelines enforced by INDAP.

ROLES OF THE ALLIANCE PARTNERS

Once the alliance is formed, each partner has a specific role. Buyers organize training to improve small-scale farmers' production, and to adapt production for their requirements. For example, they arrange testing for avoiding diseases or soil analysis; and international meetings and workshops in specific certifications, such as fair trade or food security. Producers attend these activities and use them to improve their production. INDAP acts as an intermediary in the relationship, monitoring its implementation and funding an important part of the programme (between 40 percent and 70 percent of the cost of the alliance, depending on the size of the buyer company).

The buyer companies and small-scale farmers can contribute with cash and/or with the value of their own resources (infrastructure, equipment, professionals, etc.). PAP operates in 16 different products or value chains with a wide diversity of economic and productive activities. To the same extent, producers are also highly heterogeneous in terms of both volume of production and income. For these reasons, the programme gives training and support that is tailored to specific production requirement, considering a four-year plan.





Chapter 3

Case study methodology

Given the extensive range of initiatives and programmes which incorporate aspects of human capital development in their approach to agricultural development, it is difficult to comprehensively assess these types of investments across similar models (Farmer Field Schools, for example), or even in a single country. However, the use of case studies can facilitate a deep understanding of the complexity of an initiative which seeks to develop human capital, and elucidate the processes and phenomena in a given context (Baxter and Jack, 2008). This case study incorporates secondary data sources and primary qualitative and quantitative data to elucidate the opportunities and challenges a particular programme faced in developing human capital amongst family farmers in a given context.

General demographic human capital indicators for Chile were extracted from a variety of secondary data sources to contextualize the project environment. Demographic indicators, information and communication technology (ICT) and educational attainment indicators were compiled from The World Bank Open Data site and the Human Capital Index (World Bank, 2018, 2020). Agricultural research investment indicators were compiled from the Agricultural Science and Technology Indicators (ASTI) database, which houses datasets on agricultural research expenditures and human resource capacity in low- and middle-income countries (IFPRI, 2020). Information on agriculture expenditure was also downloaded from FAOSTAT (FAO, 2020).

QUALITATIVE DATA COLLECTION AND ANALYSIS

The qualitative aspects of this case study are based on semi-structured interviews, aimed at understanding the perspectives of key actors who work with the PAP to determine whether the development of skills and abilities of participating farmers has been successful. This case study was originally planned using participatory workshops in strategically productive territories, but given the COVID-19 context and the restrictions to mobility and gatherings imposed by the government, these conversations were held online through individual semi-structured interviews. In cases where online connectivity was not feasible, telephone interviews were carried out with 36 respondents, selected according to the criteria detailed in Table 4, processed by using selective transcription guidelines.

Qualitative sampling – actor selection

Qualitative research implies a comprehensive pertinence criterion to select the sample, rather than statistical representation. In this case, the sampling technique focused on model cases. This is a qualitative sampling-based technique based on the active search for relevant profiles, where the heterogeneity within the mean value chains in which the programme operates can be represented (Hsieh and Shannon, 2005; Rapley, 2014).

According to official documents, the PAP operates in 16 different products or value chains, the largest being berries, apiarian, vineyards and dairy production. Given the large number of value chains and the need to narrow down the qualitative sample, these 16 products are grouped into seven broader types (see Table 4).

Considering this grouping criterion, a selection of cases was made by categories, including different geographical zones where the programme was implemented, with a special focus in the regions of Maule and Los Ríos, where 40.7 percent and 13.5 percent of PAP participants operate, respectively. These regions constituted, respectively, the first and third most important geographic areas of application of the programme in terms of participants. Nonetheless, in addition to their relevance in terms of PAP programme users, in these two regions most of the participants are found in fruits and dairy and meat, the two largest categories. Despite this focus, we interviewed PAP users in every region in which the programme takes place and covers all categories of products. Table 5 details the sample selection.

Table 4

Full range of PAP participants by products and product categories

Nº	Product Grouping		Programme users	
	Category	Product	By product	Category total
1	Fruits	Berries	994	1 094
		Other fruits	100	
2	Apiculture	Honey	623	623
3	Vineyards	Vineyards	392	392
4	Oils	Essential oils	40	40
5	Dairy and meat (animal products)	Dairy	348	688
		Beef cattle	219	
		Sheep	75	
		Pigs	46	
6	Vegetables, legumes and cereals	Vegetables and potatoes	193	483
		Beets	172	
		Legumes	46	
		Cereals	72	
7	Farm specialties, crafts and rural tourism	Farm specialties	50	276
		Crafts	131	
		Rural tourism	95	

SOURCE: INDAP's Users Baseline Survey 2015.

Interviewee selection was carried out following purposive sampling criteria based on areas and regions.

The selection of interviewees was done according to the sampling criteria based on the previously defined areas and regions. However, it is important to note that it was the purchasing companies who selected and contacted the participating farmers. We did not have access to the database with the complete list of PAP users, we had no record of the producers who dropped out of the programme, nor was it possible to access the lists of participants, or to carry out the research under the terms of the original design. Sampling was ultimately carried out by INDAP (INDAP professionals and buying companies) and by the buyers (PAP producers). The sampling criteria originally designed and proposed to the INDAP authorities are detailed in Table 5.

This selection method, suggested by local authorities within INDAP, prevented us from performing a random selection of participants for the interviews, potentially biasing the main results and conclusions of this study. Since companies might have only selected their best partners, it is possible that interviewees were more prone to make good evaluations of the programme and of their alliance. Nonetheless, in our results we found sufficient heterogeneity in responses to provide certain confidence in the results obtained.

Qualitative analysis

The information analysis, done through content analysis, had three steps: transcription, coding in matrices (analysis of the matrices is available upon request) and content analysis of each dimension of the matrices. In this final step, the most important elements from each dimension of the analysis were retrieved. These have been presented narratively in a synthetic way in this present report. Verbatim quotes, duly cited, are used only when they are needed to illustrate the actors' perspectives. Given the characteristics of the secondary information available about the programme, the qualitative analysis was not only used in the results section, but it was also essential for the reconstruction of the history of the programme, its operation, and incentives for participation, among other sections already presented.

Table 5
Sampling criteria for interviewees

Programme participants	Sampling strategy	Number of interviews
INDAP Professionals (programme executors)	One interview per category, plus one to the general coordinator	8
Buyers (purchasing companies)	One interview per category	7
Small farmers (programme users)	Three interviewees per category, with at least one woman per area	21
Total		36

SOURCE: Authors.

QUANTITATIVE DATA

This study draws mainly from the information obtained through the interviews and the qualitative analysis described above. Additional economic and demographic information about INDAP and PAP users, and their evaluation of the programme was provided from two different sources: the INDAP User Baseline Survey from 2015, used mainly to provide contextual information (Annex 1); and a survey applied for the purposes of this study to 87 PAP users. The objective of this second survey, carried out between July and August 2020, was to have more recent demographic and economic information about PAP users, and, more importantly, to ask them about their evaluation of different aspects of PAP, complementing the main qualitative findings.

2020 survey of current participants (2020 PAP Survey)

To provide more updated information, we conducted a brief online survey to collect socio-demographic data such as age, educational level, home size, location and year of enrolment in PAP; as well as information about the current status of programme users (farmers) in terms of income and production for crops that are being addressed in the programme. Current status was referred to 2019, since some of the variables of interests could have changed in 2020 due to the impacts of the pandemic. In particular, we were interested in capturing information from a more normal season rather than 2020, a sharp reduction in income and consumption among the Chilean population, potentially affecting sales, production and earnings, and where the pandemic and the government's anti Covid-19 measures have resulted in changes in usual agricultural practices.

Survey respondents were asked for their assessment of the PAP, their opinion on the training received and the skills and abilities that were developed as a consequence of their participation. The instrument was developed through Google Forms and sent by INDAP to the cell phones of all producers associated with the PAP for whom they had cell phone number information.⁷

Given that the survey was voluntary, it is possible that respondents are a self-selected group of farmers, which could restrict its validity in terms of sample representativity. In particular, it is possible that a higher proportion of tech-savvy, younger, higher-skilled farmers, potentially with larger production and higher earnings, form our sample. If this were true, then our results might be biased for these variables and perhaps also in terms of the programme evaluation. We assess this potential bias by comparing our sample with the INDAP Users Baseline Survey 2015 (Annex 1). Finally, it is important to mention that the goal of this survey was not to be representative of producers that were part of the programme, but to update some of the information regarding skills, abilities and other characteristics of the producers and PAP participants.

Ethical approval: The International Food Policy Research Institute Institutional Review Board for Social, Behavioral, and Educational Research approved the methods of data collection (IRB Approval Number: DSGD-20-0621).

⁷ We did not have access to the database with cell phone numbers and PAP producers by INDAP. This implies that we do not know how many producers have cell phones or how many of them have them updated in INDAP's database. Neither do we know how many actually received the message, and therefore we cannot state what was the response rate. We assume, however, that only a small group of PAP producers, probably those with more knowledge of technology, actually answered the questionnaire.





Chapter 4

Evidence base for success of the case study in human capital development

In terms of the proposed objective, research results suggest that the programme enables producers to establish a stable commercialization alliance with buyers and improves the productive capacity of small-scale farmers in terms of technical and administrative knowledge, equipment and infrastructure. This achievement benefits both farmers and buyers: farmers acquire practical knowledge on the newest methods of production, which enables them to access markets they could not reach by themselves; and buyers are able to acquire good quality products that comply with market standards. This is especially useful for companies operating in international markets with standards for fair trade or agroecological farming, or those exporting to international markets with high standards.

Additional information from INDAP's 2015 User Baseline Survey shows that values of production and sales of farmers participating in PAP are, on average, twice the average gross value of production and sales of other INDAP users. As will be described below, this is not necessarily an indication of the programme's success, because INDAP selects PAP participants based on their successful performance in other INDAP programmes, or their pre-existing relationship with the buyer, which suggests that PAP participants might be more productive to begin with.

However, qualitative information from the interviews with PAP producers suggests that, compared to their starting point upon entry into the PAP, participants increase their market participation and improve their productive and commercial relations by receiving targeted training on market requirements, farm and risk management, and sustainable use of resources. The improvement of small-scale farmers' capabilities may not always be reflected in an increase in quantity produced or income, but it does contribute to improving production practices and strengthening management skills, leading to an improvement in product quality. Both aspects are highly valued by small-scale producers who said: "we are motivated because besides learning how to develop a better work, production has increased" (Interview Farmer 16, Vineyard Area, August 2020); "we can always work better if we have

more knowledge” (Interview Farmer 5, Berries Area, August 2020); “I have felt a remarkable support and I have improved my performance with the help of current projects” (Interview Farmer 10, Cereals Area, August 2020).

Farmers’ satisfaction with the programme was also reflected in the 2020 survey of current PAP participants (2020 PAP Survey). Table 6 shows that none of the individuals surveyed considered INDAP’s support (through the Productive Alliance Programme) to be “below average” or “terrible”. Moreover, respondents tended to give a higher score to the technical assistance component of PAP than to the overall relationship with INDAP, suggesting that PAP’s technical assistance is valued by participants regardless of its immediate impacts on terms of income, or quantity produced. Yet, there is still a qualitative difference between the good and excellent categories, as most users thought the management of the PAP could still be improved: less than half of surveyed individuals believed their skills (42 percent), income (44 percent) or their production (44 percent) had increased as a result of their participation in the programme. It is important to reiterate that the survey was sent to programme users by INDAP itself, which can also explain the outstanding evaluation of the PAP and, despite having stated that the results of the survey are confidential and not individualized by INDAP, social desirability bias may be present in this answer.

OUTCOMES

Whereas the PAP programme involves a key aspect of training for farmers to provide them with stable market access, which is the main goal of INDAP, its main outcome is providing a stable income for farmers. Similarly, producers state that access to markets is only feasible when the commercialization link with main buyers is in place, so this link is crucial to PAP producers.

Despite this being the case, the programme does not include the obligation for buyers to purchase from participating farmers, or for farmers to sell to the buyer in their alliance. However, this tends to occur when companies show high commitment to the programme. Qualitative data show that this commitment translates into high quality training, support in product delivery management and support for producers as they apply to investment funds or other funding resources to improve their production. As mentioned by producers, companies that show this commitment are mainly cooperatives that are part of INDAP Farmers Associative Companies. These are companies with a tradition of working with small-scale farmers, whose market share requires small-scale production, or those that are innovating in fair trade markets and/or agroecological farming. With respect to producers’ commitment to selling to the buyer in their alliance, the qualitative data shows different strategies: (a) some farmers sell them their entire production; (b) others only sell them part of their production and prefer to look for a better price for the remaining production; and (c) a small share of farmers do not commit to selling to the buyer in their alliance and prefer selling at better prices elsewhere. The qualitative data shows the producers of this kind are a minority and are normally associated with higher production volumes.

Table 6

PAP Users assessment of the programme, N = 81

Category	Overall score	Technical assistance
Excellent	28.5%	41%
Good	57.1%	46.2%
Average	14.3%	7.7%
Below average	0%	0%
Terrible	0%	0%

SOURCE: Authors' elaboration using the 2020 PAP Survey.

Alliance results on training

In terms of training, producers highlight how important this support has been for improving their production practices and developing their skills, particularly with respect to:

- **Specialized technical skills.** Farmers receive training in input use, pest control, disease management, and design for hand-crafted items, which have improved product quality as well as their ability to meet market demand and manage risk.
- **Planning skills.** Producers are taught to follow protocols for monitoring productive activity through registers: “as farmers sometimes we are a bit reluctant to keep records but we have had to learn to register when, for example, a calf dies” (Interview Farmer 2, Meat Area, August 2020). Development of these management skills translates into better yields, and into an increased ability to meet requirements for certification.
- **Production skills for specific methods of production such as fair trade and agroecological farming.** These are normally required in certification processes of purchasing companies. The qualitative sample of PAP producers who have developed these specific productive skills evaluate their participation positively, because prices paid are higher and also because they see opportunities for future growth, since “food supply for the future is oriented towards this way” (Interview Farmer 5, Berries Area, August 2020). The skills training changes both practices and perceptions: “for pruning in the past we used to burn down everything, now we do not do it at all, we incorporate pruning. We learned how to take care of wildlife. Before we used to hunt down birds when we realized that it is right the opposite, they actually provide us with a service” (Interview Farmer 8, Berries Area, August 2020).
- **Development of communication and interpersonal skills, mainly among female producers.** Although this programme does not have specific provisions to promote the inclusion of certain groups like women, young people or people with disabilities, some participating women felt that they particularly benefited from the programme. As a result of the programme they are confident to participate even more, generating at the same time a new or more stable source of income. Participants stated that the programme “has set women very high up” (Interview Farmer 9, Berries Area, August 2020). As an example, one female producer said: “I am one of the women

who have dared to go out on field trips, have a voice to ask questions and sign up for projects” (Interview Farmer 14, Apiculture Area, August 2020) suggesting that the programme has contributed to her empowerment.

Of these points brought up by producers, only 42 percent of PAP producers believe training provided by the programme have improved their skills. The rest of them do not consider this to be the case, posing again the question about the success of the programme in terms of human capital development, especially in the long-term after finishing the alliance. However, among producers who who believed PAP participation had improved their skills, 43 percent cited quality improvement, 36 percent quantity improvement and 11 percent improvement in administrative skills. Only 7 percent of them think they are better off in terms of resource management, and less than 3 percent have diversified their production (see Table 7).

Table 7

Skill development in the context of the PAP and future expectations of improvement, N = 81

Area	What area has the PAP boosted the most?	Which area would you want to focus on the future?
Business administration	11.1%	12%
Production quantity	36.1%	26.7%
Production quality	43.1%	10.6%
Product diversification	2.7%	20%
Resource management	6.9%	4%

SOURCE: Authors' elaboration using the 2020 PAP Survey.

When PAP producers were asked about the capacities they wish to develop in the future, it is interesting that they seem to be more concerned with increasing and diversifying production than with quality. This may reflect the fact that their products have reached the required quality, one of the main objectives set by the buyers in establishing the Alliance, and a prerequisite for participation in the Alliance. However, as the programme progresses, there may be a mismatch between the expectations of buyers, INDAP and PAP, and the pace of producers in building skills. This reflects the comments made by producers in the case study interviews.

Incentives for participation

It is worth noting the incentives that both buyers and small producers receive when participating in the programme. Information gathered from interviews with both buyers and small farmers allows us to establish important differences in terms of incentives. For buyers it is possible to mention the following:

- **Financial incentives.** These are linked to direct contributions from INDAP for the maintenance of the alliance (40 to 70 percent of the total cost). These incentives are quite significant among small or emergent companies where this contribution allows them to face their first growing stages such as exporting or opening to new markets, and reduce the risks associated with the implementation of the alliance itself.

- **Specific production features.** One of the most important incentives buyers face is the need to meet certain quality requirements in international markets, which can be met by providing specific training to producers. The participation in PAP therefore allows buyers to improve the quality of their production (bought from small farmers) through quality training and to reach the markets of their interest. This may be due to special features of the products (for example, berries or meat) or because they are looking for markets such as “fair trade”, “organic” and/or “local” seals and certifications (honey, local crafts, native potatoes, fruits and organic meat). In these sectors small producers are key for the optimal production features, so the quality of training, follow-up and linkage between both players is far stronger than in other cases.
- **History of the company.** Some companies come from small-scale local producers and the alliance model is a step further towards their consolidation. A paradigmatic case is the 15 Farmers Associative Cooperatives (EAC), which give technical support and ensure a distribution channel for their partners, helping farmers to improve and increase production and to innovate. It is also possible to find companies that, while without any formal link with cooperatives or productive partnerships, have through specific features of their products (organics, hand-picked and/or handmade) been progressively generating a reputation for the produce of their local communities, strengthening their interest in participating in the programme.
- **Corporate social responsibility.** Companies also participate in the programme as part of their corporate social responsibility efforts. For example, the contribution of small producers in the wine business is not important for production but represents a key aspect of their social responsibility goals.

In the case of producers, it is possible to distinguish the following aspects as incentives for their participation:

- **Specialized technical support.** Producers stress the importance of improving production to build more efficient business relationships with buyers. They also value technical field visits to address specific issues such as crop, hive or animal diseases, production issues, and administrative issues such as accounting and data records. For large-scale producers, such as those in cereals, who have access to many buyers out of PAP as well, this is an important factor in remaining in the alliance. This is even when they consider that the prices offered by buyer companies are lower in comparison with other buyers out of the programme.
- **Access to stable markets.** As a consequence of the participation in the programme, regular commercial links are established. Although it is emphasized that prices offered through this channel are low compared to the market, for small-scale producers this is the most important factor ensuring their financial stability.

Lastly, in terms of investment, the programme has allowed producers to access machinery such as trucks, and to invest in storage space and other supplies. Financial support from other INDAP programmes has helped producers improve their products to make them more attractive to consumers, and to gain access to new markets. In addition to training for production that is essential for the PAP, Table 8 shows the main areas in which INDAP has economically supported farmers outside the programme.⁸ As can be seen in Table 8, most of the additional financial support goes to infrastructure, followed by equipment and inputs.

Table 8
Financial assistance from INDAP. Areas of investment, N = 81

Area	Proportion
Equipment	34.6%
Infrastructure	44.9%
Inputs	21.4%

SOURCE: Authors' elaboration using the 2020 PAP Survey.

Even though in general both producers and companies are critical of the support provided by the programme, stating that is not enough, they agree that INDAP's support is very important for the success of the alliance. Finally, INDAP recognizes the importance of complementary support from other INDAP programmes and is concerned about the ability of small producers to reach some degree of autonomy after completing the programme. However, it can be recognized that the agricultural human capital development model of PAP shows successful results in the following aspects:

Improved productive ability of small-scale farmers in terms of volume and yield

Significant increase in production volume is achieved mainly by larger producers in the cereal and vineyards sectors, since they have a greater capacity for land use and investment. Meanwhile, honey and crafts producers manage to convert their small-scale agricultural activities into their main income source. We also find that producers successfully specialize in specific production requirements to engage in alternative commercialization models, such as fair trade and agroecological farming. Success of the programme in terms of yield increase was common to all the interviewees.

⁸ The investment is made by the farmer. Farmers buy new machinery via INDAP's Investment and Development Program. For more information: <https://www.indap.gob.cl/servicios-indap/plataforma-de-servicios/financiamiento/!k/programa-desarrollo-de-inversiones-pdi>.

Higher and more stable profits

Development of mentioned skills and established commercial relations allowed all producers to improve their profits, not only by increasing them (in fact, many cereal, wine and crafts producers confirm this increase), but also in terms of providing stability, formality and a real possibility of a life in the countryside based on agricultural activities, such as berry, honey and meat production. In the case of handicrafts, it is worth mentioning that a reason for the increased profits has less to do with production improvements than with the programme opening a previously non-existent commercialization channel.

Promotion of associative development

Although it is not one of its goals, a third successful outcome of the programme is the strengthening of producers' associations. PAP includes among its buyers 15 Farming Associative Companies that operate as cooperatives and which were boosted as a result of their participation in the programme. As an example, associative companies in the honey and berry industries, operating as buyers in the PAP, managed to grow into trading companies or become exporters. Producers that are not cooperative members also benefitted from the opportunity to cooperate and coordinate with fellow PAP users, because each alliance managed to generate a stable group of producers that worked together, allowing peer learning and price negotiation. Associating and organizing have also helped them to access investment resources, or purchase machines and agricultural inputs for collective use.

OVERALL IMPACT

The programme generates conditions for small-scale farmers to access better commercial alternatives by fostering the establishment of commercial relationships with buyers. The programme's agricultural human capital model is made up of the relationship between the creation of stable commercialization channels and the specialized advice provided by the buyers in response to the specific needs of the market in which they operate. Overall the programme improves the human capital and skills of small producers thanks to specialized training in production methods, farm management, and technical and quality requirements. In turn, this helps both buyers and producers to meet the requirements for entering new markets, such as export, supermarkets, fair-trade and agroecological agriculture markets.

It is important to also analyse the relations between the programme and rural development. Thanks to their participation in the programme, many producers are able to reduce their vulnerability and "to make a living" in the countryside, and this encourages younger generations to stay or even to return to the countryside: "I did not know anything. I have learnt everything with the Alliances Programme. I left to the big city but then returned to the countryside" (Interview Farmer 7, Berries Area, August 2020). This is consistent with the expectation farmers have for their future. As observed in the 2020 PAP Survey, more than half of the individuals aim to further increase their production, while only a negligible proportion of people seem to see themselves abandoning farming altogether (see Table 9).

This aspect is even more important if we consider the possibilities the programme opens in terms of incorporating companies and producers to new models for the rural economy such as fair trade and agroecological farming. These are highly producer-focused models which involve safety, traceability, and flow of raw materials, making this beneficial for small-scale production, encouraging rural development.

Lastly, sustainability in these commercial relationships is a critical aspect to analyse: one of the big questions is whether buyers and producers are able to acquire all necessary skills to autonomously maintain these relationships over time. Through this study we have observed that, on the one hand, many companies manage to establish more than one alliance, and on the other, producers join alliances with new companies. Many of these businesses are the Associative Companies that thrive on the assistance of the programme. However, many producers highlight the need for external support to maintain production. One interviewee noted: “As a small producer I need to be protected” (Interview Farmer 5, Berries Area, August 2020) referring to difficulties they have facing the market by themselves.

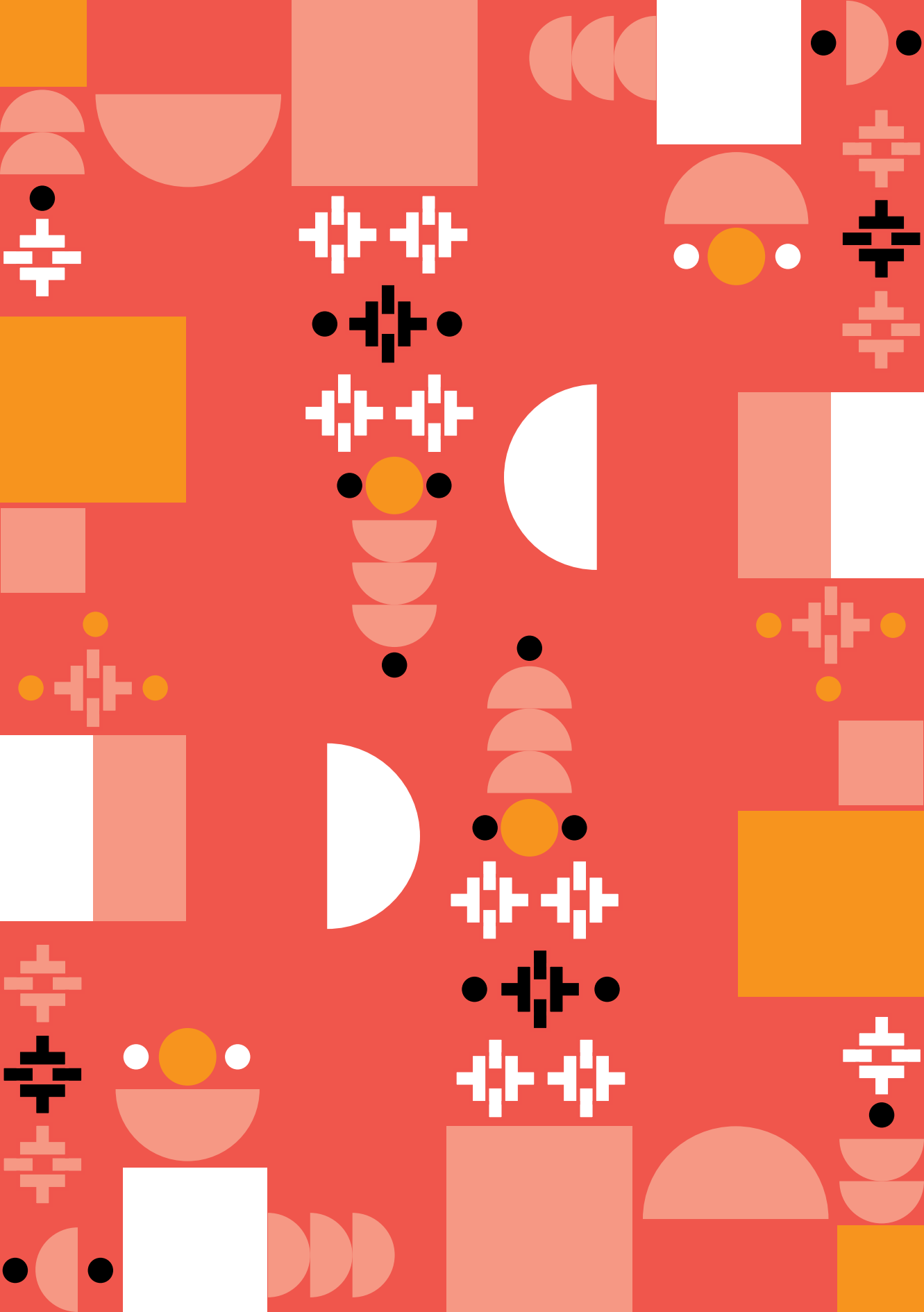
Table 9
Farmers' future projections and expectations regarding their agricultural performance, N = 81⁹

Category: In the future, do you see yourself?	Proportion
Increasing my production	62%
Abandoning farming	5.1%
Producing, but on a lesser scale	10.1%
Same as now	8.9%
Increasing sales levels	13.9%

SOURCE: Authors' elaboration using the 2020 PAP Survey.

⁹ The exact question was phrased as follows: Considering your current situation, and the Chilean economy. How do you see yourself in five years?





Chapter 5

Analysis and recommendations

DEVELOPMENT OF CAPACITIES AND ABILITIES

The research results show that small producers develop capacities and abilities. However, they do not feel that the alliance can be sustained upon completion of the programme, for three main reasons:

- While the programme does improve production quality, this is not necessarily sufficient to significantly increase producers' income. This means that, without the support of the programme, producers may not be able to cover the full cost of maintaining production quantity and quality, for example, to pay for the specialized advice provided by the programme.
- Despite successfully inserting producers in a commercialization cycle, it has not reduced the risks that small producers are exposed to. A drought or a bad decision regarding seeds, fertilizers or other inputs can lead to complete loss of harvest. Indeed, producers believe that they need permanent support. This is reflected in the 2020 PAP survey as well: only 2.7 percent of respondents indicated product diversification as the area the PAP has improved the most, and 20 percent of them would like to focus on product diversification in the future, possibly as a way to reduce risk and income fluctuations.
- The programme designs alliances that last for four years. At the end of the four years, producers and buyers that renew their alliance within the PAP have to repeat the same training and programmes they carried out during the first alliance, with no recognition of the progress made, nor an increase in depth or complexity of content. A producer can participate in three consecutive alliances and receive the same training each time, which impedes any progress in their development. A programme incorporating different levels, designed to allow different progress pathways for establishing long-term alliances is recommended.

ORIENTATION/INCENTIVES FOR THE COMPANIES

The level of commitment from the purchasing company is fundamental to the programme's success as this affects the quality of the relationships that they establish with the producers. Producers perceive big companies that do not depend on small producers as bad partners, because the support and quality of their training only meets the bare minimum of what is required by INDAP. To address these shortcomings, two measures are recommended: 1) offer better incentives to large companies that participate, on the condition that they meet a set of requirements in their relationships with small producers. 2) evaluate the potential to refocus the programme on companies with profiles that are better adapted to small producers, as our results indicate that they have higher levels of commitment to the implementation of the programme, a more direct relationship with small producers and a better model of capacity development over time.

COMPLEMENTARITY WITH ASSOCIATIVITY PROGRAMMES

The results show that the programme works much better with associative companies (cooperatives) and producers with prior networks, because both the cooperative and the producer have an interest in growing.¹⁰ In line with this, two action paths are suggested: (a) strengthen associative companies and producer cooperatives' participation in the programme; and (b) include incentives for promoting farmers' associations in PAP's action in areas where no previous associativity is found. This could, in turn, strengthen other INDAP programmes working with producers' associations.

RE-EVALUATE FORMS OF PARTICIPATION

The PAP programme does not have open access, because it selects producers who have successfully participated in other INDAP programmes, or who have an already established relationship with a buyer. This excludes producers who are not INDAP participants but who might thrive in the PAP. Also, access to the programme only opens every four years and requires several producers to be interested; therefore, a single producer can only enter when the alliance is renewed and provided he or she can find other producers that are willing to participate. This creates access barriers that could be lowered by a programme that offered alternative means of access, for instance by allowing small farmers to directly apply for participation in the PAP.¹¹

Overall, the programme offers an important path for small producers to reach both national and international markets and increase their human capital, while providing them with a more stable source of income and reducing important risks to production. However, some concerns exist about the sustainability of these results over time, upon farmers' graduation from the programme. Both producers and buying companies that participated in this

¹⁰ It is relevant to clarify that “associative companies” are understood as the partnership between several cooperatives, while “producer cooperatives” are to be understood as individuals that form a part of said cooperatives. Associativity programmes are a specific kind of INDAP programme oriented towards promoting the link between farmers' businesses. For more information see: <https://www.indap.gob.cl/servicios-indap/plataforma-de-servicios/asesor%C3%ADas/!k/programa-de-associatividad-econ%C3%B3mica--pae>.

¹¹ Please note that this is our recommendation based on the data analysed and presented in this report. We do not have information on INDAP officials' opinions on the matter of changing the eligibility conditions of the programme.

study suggest that the success of the programme heavily depends upon support from the government, both monetary and technical assistance. Since the companies and INDAP specifically select producers in relation to the objectives of the programme, one might wonder how good these same results would be if participation were open to all small producers.

However, some of the modifications suggested here, such as improving how training is delivered and creating a learning process that progressively evolves with the alliance and with previous skills developed, could increase the programme's success and develop long-lasting capabilities and skills in its participants, producing a stronger alliance between producers and buyers, independent of INDAP. To this extent, one of the most pressing challenges for INDAP in general and for the PAP programme specifically, is to design a graduation strategy for both buyers and, most importantly, producers, providing them with tools and skills than can help them to successfully remain in the market upon completion of the programme.

RECOMMENDATIONS FOR IMPLEMENTATION ELSEWHERE

More generally, the PAP programme is successful in securing a stable income and market access for small producers by creating alliances with larger export-oriented companies or buyers producing and exporting the same product. This is important to consider as the programme improves producers' well-being and creates conditions to encourage them to stay in agriculture. As was mentioned before, one of the main relevant aspects of rural areas in Chile is the decrease in the number of jobs in agriculture and the urbanization of these territories, so the programme has the potential to reduce the rural and sectoral out-migration of the labour force, and to provide fresh healthy food to the population in and out of the rural areas. This is especially relevant in developing countries like Chile where obesity is one of the main concerns, especially among school-age children.

On the other hand, the targeting of the programme, focused on small farmers with less than 12 hectares whose main income comes from agriculture, as defined by INDAP, allows them to better implement the programme and to have a more efficient use of the resources invested. To the same extent, while INDAP pushes for the creation of the alliance and actively seeks participants; it is also the buyer's responsibility to train producers and to assist with additional resources for the alliance's work, significantly reducing costs for INDAP. This is especially true for larger companies, who receive less financial support from INDAP. If the alliance lasts after the three-year initial agreement in which INDAP is involved, there is a possibility for it to work even without governmental assistance, so that INDAP can include new small farmers and/or companies in the alliance or the programme in general.

In terms of outcomes, while a significant proportion of the producers increased their skills as a consequence of the participation in the programme, it does not seem to create enough human capital accumulation among small farmers for them to maintain the alliance independent of INDAP after the finalization of the three-year initial agreement. This could be improved by modifying the way the training is structured so as to grow with the alliance.

In fact, when it comes to the evaluation producers make about the skills developed, one of our findings is that once the product achieves the quality required for the buyers and the markets to which they export, producers

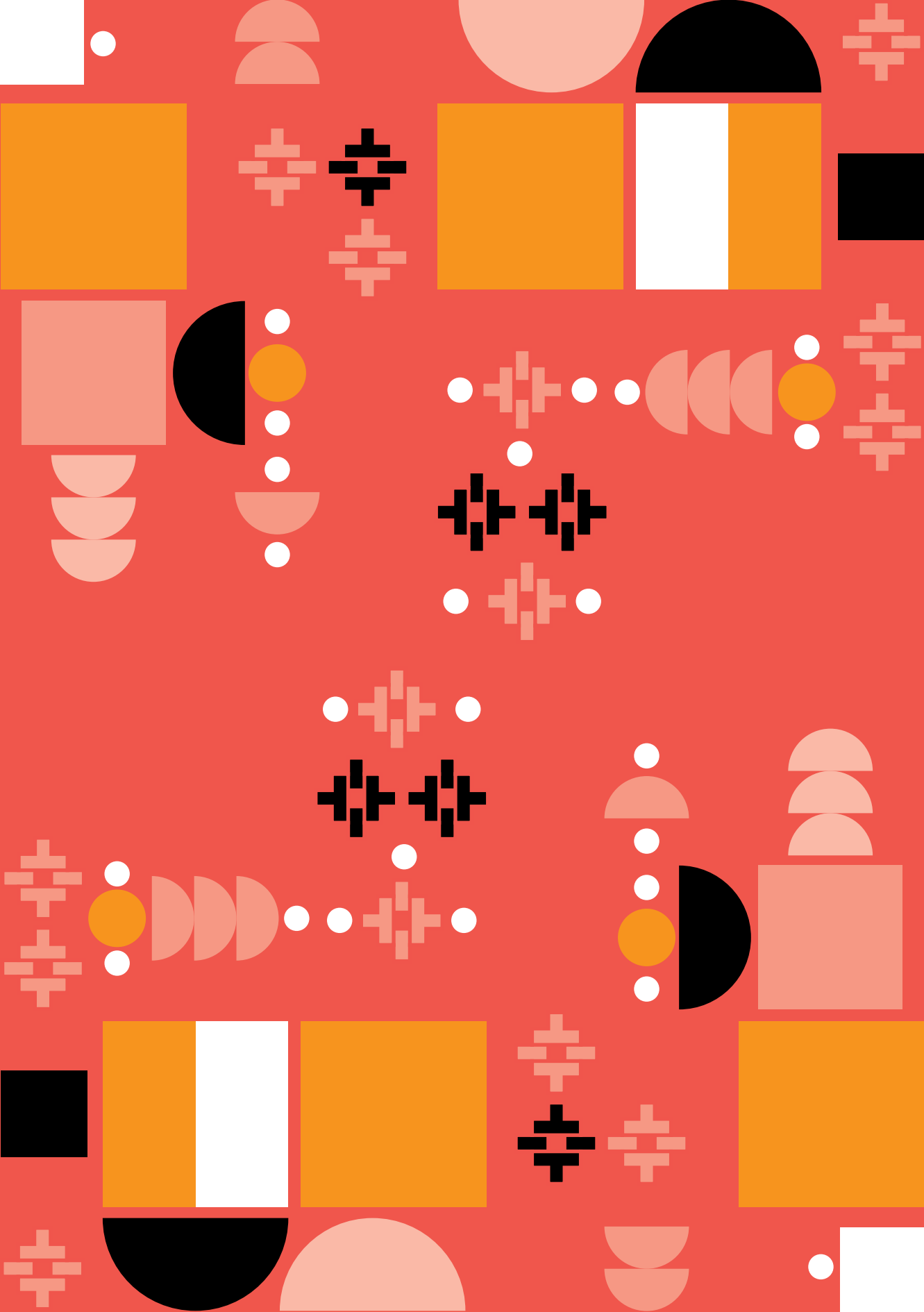
wish to improve skills in areas that have not been developed yet, such as product diversification and production. To this extent, to increase the programme's impact on human capital, we believe INDAP, the buyer and the producers should work together to create alliance-specific skills to be developed over time, and to declare common milestones to be achieved by the alliance.

From a methodological perspective, a first step in this direction will be to expand and update the original 2015 survey of INDAP-supported producers to include questions about skills and human capital developed, and to make it longitudinal to better serve the purposes of impact evaluation. This would allow better ongoing monitoring and evaluation of the functioning and results of the programme, so that they can take corrective actions and measures when needed, and increase the impact of the programme.

Similarly, as stated before, the programme should be open to application from new and 'unknown farmers', so that those currently out of farming could have an incentive to become agricultural producers and to apply for the programme. Similarly, those in agriculture currently not being selected by INDAP professionals and/or buyers, could also be part of the training programme, regardless of their participation in an alliance. Currently, the programme only benefits those who show some potential to achieve the expected results, so it becomes difficult to evaluate the actual impact of it.

Finally, the programme has moved from being a local to a national initiative, covering almost all agricultural-productive areas of the country, which is an important feature and measure of its success. Despite not having it as a direct goal of the programme, it has also had a positive impact on women's empowerment, especially in rural areas. This increases the programme's impact as women's empowerment is thought to be a key element in helping to reduce poverty and maintaining local culture



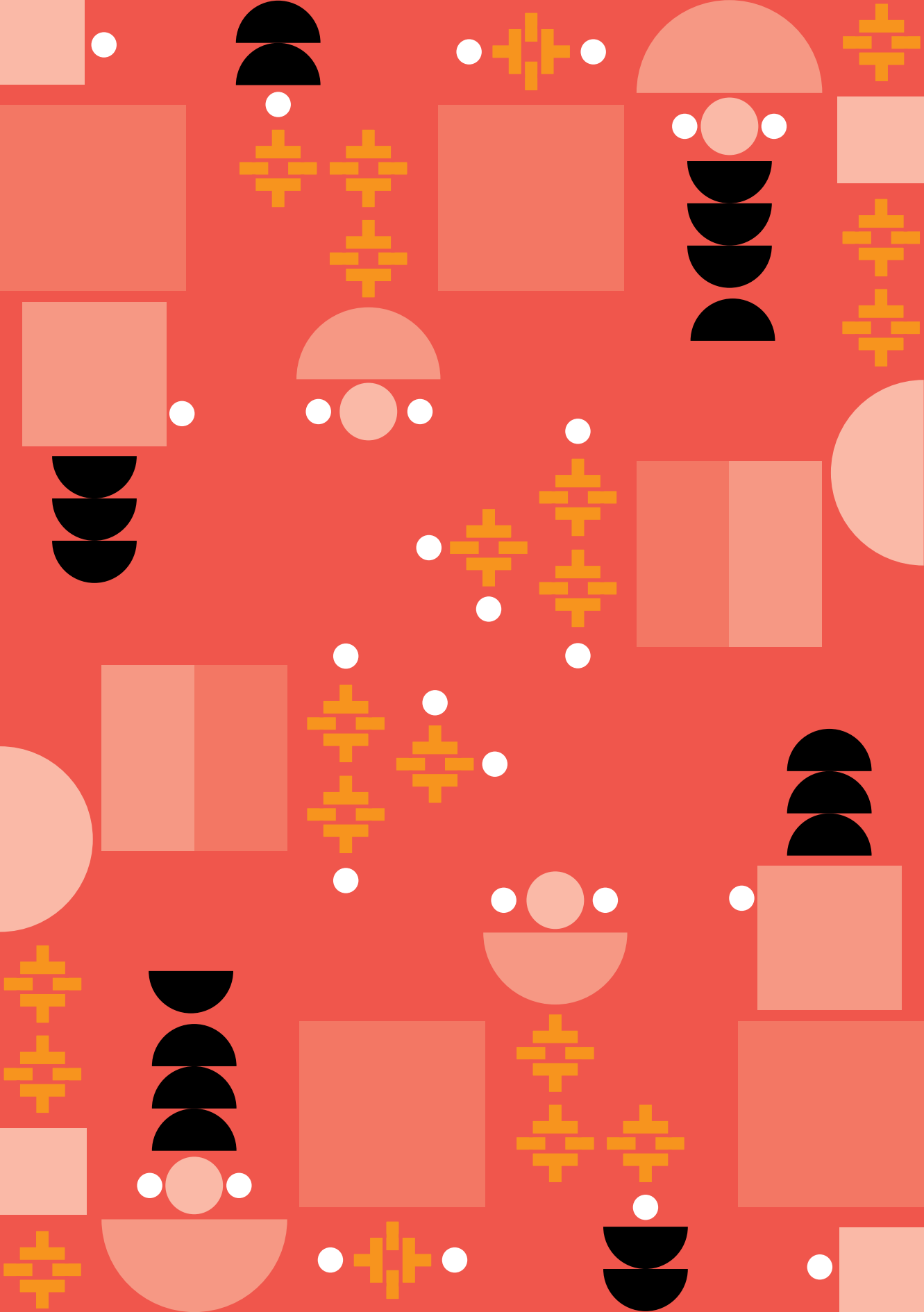


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Annex

Sample comparison between INDAP's 2015 baseline and the 2020 PAP users survey

We employed INDAP's 2015 Users Baseline Survey, an in-person survey consisting of a random stratified (by geographical macrozone and producer type)¹² sample of 5 453 individuals that participated in at least one of INDAP's programmes, of which 342 individuals participated in PAP between 2010 and 2015. This survey is representative of INDAP users on a national level, with a sampling error of 1.3 percent. This survey allowed us to characterize the PAP participants in terms of socio-demographic variables, such as age, education level, ethnicity and household size. The survey also collected data on operated land area, type of agricultural activity, quantities produced, value of sales, farmers' experience, total household income, and other variables which provide important context.

Table A1
2015–2020 Sample comparison

Variable	Categories	INDAP's 2015 baseline (PAP users only)	2020 follow-up survey
Sex	Female	28.1%	52.7%
	Male	71.9%	47.2%
Highest level of schooling	Incomplete secondary	75.2%	51.3%
	Complete secondary	23.1%	22.3%
	Tertiary or higher	1.7%	26.3%
Age	Mean age	58.1	45.1
Production characteristics	Most popular product	Fruits (28.4%) Cereals (17.7%)	Berries (45.6%) Apiculture (30.4%)

SOURCE: Authors' elaboration using INDAP's 2015 baseline database and the 2020 PAP user survey database.

¹² There are two categories of producers that were considered by INDAP: multi-active and commercial users. Multi-active users are defined by INDAP as part-time, non-permanent, self-consumption oriented farmers, whose goal is to improve their production; commercial users, on the other hand, are farmers oriented towards inserting themselves in the agricultural market, albeit in a precarious way that seeks to be professionalized.





Investing in farmers – or agriculture human capital – is crucial to addressing challenges in our agri-food systems. Chile’s Productive Alliance Programme (PAP), promotes sustainable commercial linkages between small-scale farmers and larger companies. Created in 2007 and now serving close to 3 600 small-scale farmers in Chile, PAP seeks to strengthen farmers’ capacity as permanent suppliers to purchasing companies, developing their ability to comply with high-standard production and safety, according to market requirements. This case study provides an overview of PAP, looking at what works well and why and providing recommendations for overcoming challenges. It is one of nine case studies featured in a global study on agriculture human capital investments, from trends to promising initiatives. The study was carried out by the FAO Investment Centre and the International Food Policy Research Institute, with support from the CGIAR Research Programme on Policies, Institutions and Markets and the FAO Research and Extension Unit.

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