



Photo: Olena Kotik family from Zaporizhya region

Business calculator contributes to the sustainable development of the women-led businesses

Challenge / Market Problem

SMFs rarely track their financials the way ordinary businesses would. As such, they often lack figures or any evidence that can demonstrate whether certain crops or the business, as a whole, is successful or not.

That said, many do try and use paper-based calculations, simple Excel tables, or working with 1-C accounting software. However, SMF-businesses lack guidance, business logic, structure, and direction to keep records of their financials and work with data and numbers.

Solution

In December 2016, the Ukraine Horticulture Business Development Project (UHBDP) presented to its customers (i.e. individual entrepreneurs and small and medium agricultural producers) a unique resource for business development. This resource was a business calculator (b-calculator) for farmers. Farmers often ignore accounting preferring not to waste time for record-keeping. Filling the calculator fields does not require much effort nor does it take much time. Moreover, this resource archives and stores all data more reliably than any spreadsheet or notebook.

The calculator is an Excel spreadsheet, where green cells are filled out and cells of a different color are locked so no data is input as they use formulas. There are three sections in the calculator: Our business, The needs of our family, and a Comparison of needs with business opportunities. To get results, one enters descriptions of the expenses, their amounts, and the time when such expenses occurred in appropriate cells. They also add the amount of income, the time it was received, and the sales markets. The calculator can analyze the expenses and revenues for as many as 10 crops. After entering such data, the calculator immediately provides information on the cost of production, the profitability of production, and the amount of income. The calculator also calculates the amount one must set aside for other business needs and to purchase equipment.

Will you account the inflation if yes enter below?											
15%											
№	Crop	Area	Yield	Costs	Revenue	Profitability	Price cost	Volume	Average sales price	Max sales price	Min sales price
		ha	t/ha	UAH	UAH	%	UAH/kg	kg	UAH/kg	UAH/kg	UAH/kg
Kyn.1	crop #1	0.20	36.0	11 500	30 635	266%	1.60	7 200	5.75	6.00	5.50
Kyn.2	crop #2	0.10	70.0	13 800	27 165	197%	1.97	7 000	5.75	6.00	5.50
Kyn.3	crop #3	0.30	6.7	63 250	-3 250	-5%	31.63	2 000	30.00	-	-
Kyn.4	crop #4	0.30	3.3	57 500	22 500	39%	57.50	1 000	80.00	-	-
Kyn.5	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.6	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.7	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.8	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.9	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.10	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.11	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.12	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.13	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.14	-	0.00	-	0	0	-	-	0	-	-	-
Kyn.15	-	0.00	-	0	0	-	-	0	-	-	-
		0.90			77 050			17 200			

The calculator was developed after five years of close cooperation with SMFs. Business development specialists identified and analyzed the main problems of farmers, many of which may not have been obvious. The tool is aimed at small and medium farmers who do not know how to apply and organize financial records in their business and/or cannot afford to invite external experts to assess their business performance. Consequently, the calculator helps farmers make efficient management decisions like large enterprises do.

Calculating profit and loss in Excel

By means of business calculator, a farmer with any qualification can “scan” his/her business in few hours, reveal its advantages and disadvantages as well as analyze its opportunities and risks.



During familiarization with a new program businessmen involved in berries and vegetables growing business entered overall data on revenues and expenses over the period of 5 years and... were shocked by the results.

A farmer from Zaporizhzhia region Olha Mizina engaged in growing of different crops with her partners knew that raspberry would give higher profit than other berries. But she didn't know how critical the situation was. Having

downloaded all the data (expenses and revenues) into a calculator specially developed by the Ukraine Horticulture Business Development Project (UHBDP) for SMFs Olga saw that gooseberries, currants and grapes were making the business go negative and that if the situation in the domestic fruit and vegetable market would not change, it would be necessary to introduce massive modifications.

The calculator was developed after five years of close cooperation with SMFs, identification and analysis of the main problems of farmers which as a rule are obvious only to business development specialists.

“Our project is interested in business development of our customers. We suppose that such development consists not only in increasing yields and reducing costs, but also in ensuring that farmers comprehend the basics of doing business, see the strengths and weaknesses of their production, analyze and make management decisions when necessary,” says the manager of gender programs and cooperative development programs of the Ukraine Horticulture Business Development Project Oleksandra Harmash.

“Farmers often state that the season gone bad. Why? Maybe they gained profit but it was lower than expected. The profit will not be high with small volumes of production. The farmers are not able to explain from the point of view of business what exactly gone bad, do not see weaknesses, do not operate with elementary concepts, i.e. profitability and cost price.

So how does the calculator look like? The calculator is a program containing many pages with cells. All green cells should be filled out, the cells of a different color do not allow data input. There are three sections in the calculator, namely "Our business", "The needs of our family", "Comparison of needs with business opportunities". The calculator can analyze the expenses and revenues for as much as 10 crops. In order to get the result, enter descriptions of the expenses, their amounts and time when such expenses occurred as well as the amount of income, the time when it was received and the sales markets into the cells. After data entering the calculator immediately provides information on the cost of production, the profitability of production and the amount of income. The calculator also calculates the amount necessary to be put aside as a reserve for the purchase of an equipment and many other options. The farmers often ignore accounting preferring not to waste time for keeping records. Filling the calculator fields does not require much effort, does not take much time. Moreover this resource archives and stores all data more reliably than any spreadsheets, notebooks or leaves.

“Small and medium farmers at the initial stage cannot afford inviting external experts to assess the state of business and consequently to make efficient management decisions as large enterprises do, however our elementary resource transfers vegetable and fruit growers to the business level. The calculator for

farmers is a consulting company and an analytical department at the same time at your farm," states Oleksandra Harmash.

"The high school didn't give us any knowledge of financial literacy and sometimes it seems that living in ignorance is better. But that is not true. The calculator allows you to determine the cost price of products as soon as possible, to quickly analyze the results, i.e. expenses, profits, cost efficiency. Hence gives an opportunity to adjust the actions in the next season, to determine the directions of progress."

The Shkribliaks family of farmers from Zaporizhzhia region has been dealing with cultivation of salads and vegetables for more than 3 years. The businessmen calculated profits and expenses however without going into details. Thanking to the calculator for farmers the farm has established a careful accounting system starting from a new year. The structure of expenditures is very transparent.

"The calculator is a great thing, but it is important that people would understand what this resource is intended for. Since the beginning of the year we of course incur nothing else than expenditures, but the information has shocked us," says Vitalii Shkribliak.



"Daily accounting shows whether we earn or not, the calculator helps to understand whether growing of this or that crop has any sense. This gives an incentive to thoughts about modernization, implementation of energy saving technologies," says Olga in addition to the statements of her husband.

Nadiia Kompaniets, an experienced farmer, has been growing different crops for 25 years in the village of Pokrovske in Zaporizhzhia region. After familiarization with UHBDP she started to cultivate berries. "I remember that the first results struck me dumb, the calculator showed losses. When I recollected that I hadn't taken into account the products stored in the warehouse everything tallied," recalls Nadiia Petrivna.

With the aid of the calculator Nadiia Kompaniets calculates the profitability of cultivating new crops beforehand: "I planned to plant strawberries, I know approximate amount of my expenses, I entered the minimum yield and the price of berries to the calculator and already see what profit I will have from this plot of land and whether it is worthwhile to be engaged in growing strawberries or it is more profitable to plant something else."

The family of Olha Mizina cultivates berries with partners. 4 hectares of land, 4 families. There is a very useful function for such an alliance, i.e. the program allows dividing the profit according to an investment share. The calculator also ensures the transparency of business, which is helpful for building long-term sustainable business relationships.

In the course of familiarization with the calculator functions the businessmen dealing with growing of berries entered all incomes and expenses over the period of 5 years, took into account all types of work and even utility expenses and got shocked by the results. They understood that there wasn't any need in growing some of the crops at all since the same were unprofitable. They saw their mistakes and found the balance items allowing to reduce costs.

"On what do people usually rely when choosing a crop? Everyone grows and I'll grow! The calculator is an opportunity to see whether it is worthwhile to start growing a crop or it will be waste of time and money. I'm delighted with this resource, the calculator warns against errors and saves our money," says farmer Olha Mizina.

Farmer Olena Berezina believes that the calculator is a program that should be used by every farmer irrespective of the size of a farm. "The calculator makes it possible to track the business progress: what was the amount of expenses in the past year, what is the rate of expenses this year, what amount should be planned for the next season," says Olena Berezina.

Thanking to the program Olena found losses related to the orchard and claims that she could never know about them without entering all the data into the program.

"In the process of economic calculations we came to the conclusion that we should not be afraid of dealing with the projects for cooling products in order to extend the period of their sale, of receiving an organic certificate, of growing more expensive crops. You can sell apricots at the price of 5-10 UAH or you can get a certificate, make an attractive packing, combine product batches and send them abroad, but the problem of certification should be considered. We have an idea for the production of dried fruits; such products are more interesting from an economic point of view. Assorted dried fruits packed in eye-catching bags would be a popular and useful snack for schoolchildren. There is also an idea to make fruit rolls with sesame and sunflower seeds. Products with high added value are the thing of the future," says Olena Berezina.

According to Oleksandra Harmash, the manager of gender programs and cooperative development programs of the Ukraine Horticulture Business Development Project, the calculator is a tool that allows you to engage in competitions of grants, projects and support programs. By gaining the accounting experience a farmer clearly knows what he has and what he wants, can describe his business professionally, i.e. in terms of numbers. And this is a distinct advantage over those who simply dream of improving in general.

And one more very important detail: any customer of the Ukrainian Horticulture Business Development Project can get a calculator for farmers. It is very easy to become the project's customer, you need just to register at the website <http://uhbdp.org> or call the contact center on the phone 0 800 500 184. The project specialists provide consultations on work with the calculator to everybody who contacts through the site. The project sponsors plan to conduct webinars and Skype meetings for the calculator users in future.

Objectives

Objective	Indicators of success	Intended result
To provide farmers with an effective and suitable way for business record keeping, tracking revenues and costs, and understanding business profit/loss. Shifting a mindset from doing "farming" to doing "agribusiness"	<ul style="list-style-type: none"> • Save time on tracking revenues and costs • Data based decision making • Clear understanding of business performance of the farm 	Business development and operations are based on real time data, numbers, and indicators that facilitate better business decisions, increase profits, and reduce unnecessary costs

Marketing and Implementation

Trainings on the use of the b-calculator were launched in December 2016. The solution was promoted and marketed directly from UHBDP project managers to the defined client segments which were primarily women-farmers. The first workshops focused on gathering questions and needs about the tool. The workshops themselves helped teach SMFs simple frameworks on how to organize financial records both for farm and family budget. In the majority of cases, these budgets are one in the same.

Project managers organized workshops in the classroom. Together with participants, they went through daily needs to understand financials, frequently asked questions, and integrated examples into the b-calculator.

Results

Objective	Indicator of success	Actual results
To equip SMFs with a simple analytics tool that will clearly show whether certain crops or activities are profitable and whether business is successful overall	<ul style="list-style-type: none"> Keeping a record of revenue and costs of the business 	SMFs can track cost structure for each crop and decide whether this crop contributes to the success of the business or not
To provide a simple and understandable structure and framework for record keeping	<ul style="list-style-type: none"> Actual record keeping tool of costs and revenues 	SMF received a logical structure that guides them through the record keeping process and indicates which data to input

Below are some comments from some of the participants regarding their expectations and applications of the b-calculator.

Nadiia Kompaniets “I remember that the first results struck me dumb, the calculator showed losses. When I recollected that I hadn’t taken into account the products stored in the warehouse everything tallied”, recalls Nadiia. With the aid of the calculator, Nadiia calculates the profitability of cultivating new crops beforehand. She commented that, “I planned to plant strawberries. I know approximate amount of my expenses and I entered the minimum yield and the price of berries in the calculator. I already see what profit I will have from this plot of land and whether it is worthwhile to be engaged in growing strawberries or if it is more profitable to plant something else.”

Olena Berezina “The calculator makes it possible to track the business progress: what was the amount of expenses in the past year, what is the rate of expenses this year, what amount should be planned for the next season”, says Olena. Owing to the program, Olena found losses related to the orchard and claims that she would have never known about them without entering all the data into the calculator. “During the process of these economic calculations we came to the conclusion that we should not be afraid of dealing with the projects for cooling products in order to extend the period of their sale, of receiving an organic certificate, or of growing more expensive crops. You can sell apricots at the price of UAH 5-10 or you can get a certificate, make an attractive packaging, combine product batches, and send them abroad. But the problem of certification should be considered. We have an idea to produce dried fruits. Such products are more interesting from an economic point of view. Assorted dried fruits packed in eye-catching bags would be a popular and useful snack for schoolchildren. There is also an idea to make fruit rolls with sesame and sunflower seeds. Products with high added value are the thing of the future”, says Olena.

Olga Mizina “The b-calculator has a great advantage, namely it allows making calculations in small business too. Very few small business owners keep records in general”, says Olga.

Vitalii and Olga Shkribliak “The calculator is a great thing, but it is important that people understand what this resource is intended for. Since the beginning of the year, we, of course, incur nothing else than expenditures, but the information has shocked us”, says Vitalii. Olga adds that, “Daily accounting shows

whether we earn or not. The calculator helps to understand whether growing this or that crop makes any sense. This makes us think about modernization and the implementation of energy saving technologies.”

Application

Below are some ways in which UHBDP clients are using the calculator and some of their challenges.

Nadiia Kompaniets enters only the expenditures to the b-calculator because she doesn't have all the information necessary to complete the full report. For example, for strawberries, she lacks information on wages and the cost of land, fertilizers, and seedlings. Similarly, for raspberries, she lacks information on wages and fertilizers. She has no wage costs because the family planted seedlings by itself. Nadiia also bought a cutter but she does not know how to properly distribute the costs related to its purchase.

Olena Berezina entered the costs on all crops to the b-calculator up to March, inclusive. The following costs will be entered when sales occur.

Olga Mizina entered the costs on all crops for the last 5 years to the b-calculator. It so happened that the grapes were killed by frost this winter and the family was thinking about whether it is reasonable to transplant them or not. Based on the results considering all crops in the b-calculator, she could see that the grapes are not profitable for growing. As such, the family decided not to replant them. The b-calculator allows you to see clearly not only revenues and costs but also the profitability of growing in terms of individual crops.

Vitalii Shkribliak entered costs of all crops into the b-calculator as he has already sold the first batch of cucumbers. Olga, Vitalii's wife, entered incomes and reported to her husband that the b-calculator functions very well.

Lessons Learned and Suggestions

Behavioral changes

Based on observations from 2 workshops, people are open and eager to learn and apply the b-calculator. We need to test whether this tendency will survive in the long-run among SMFs and if the demand for the b-calculator framework will grow to encourage people to be attentive to their financials the same way they are attentive to inputs and technology.

Marketing

To create a need and foster an understanding of the benefits of financial literacy, strong marketing campaigns with print and online articles, newsletters, presentations, and sharing of world-wide best practices will be useful to engage and increase interest among SMFs. At the same time, proper marketing tools would show whether the interest around the b-calculator grows over time. The training workshops themselves are another great opportunity to spread the tool and establish a baseline against which to track the mind shift resulting from using the b-calculator.

Sustainability and usability

The b-calculator has many benefits if utilized. However, it can lose its attractiveness if the farmer does not use it on a regular basis. To make this solution sustainable, there needs to be a proper full-time customer support and implementation team on the advisory or NGO side.