PASO (Precision Agriculture Service Office)
Business Plan

Erasmus+ Project
New and Innovative Curricula in Precision Agriculture / (NICOPA)
597985-EPP-1-2018-1-KZ-EPPKA2-CBHE-JP

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CONTENT

Introduction

Precision Agriculture Service Office: Mission and objectives

Mission: The main mission of the PASO office is to create conditions to ensure the sustainability of the project results after its completion and the receipt of funds to maintain the functioning of the office and its further development

Tasks:

- Analysis of the compliance of competencies/skills of agricultural graduates with the requirements of employers;
- Marketing of the educational services market;
- Marketing analysis of the labor market in the region;
- Establishing contacts with industry representatives, enterprises, research centers, government organizations and institutions;
- Analysis of the requirements of potential employers;
- Marketing needs in the field of implementation and use of precision farming technologies;
- Development and implementation of training courses and/or advanced training different target groups;
- Analysis of the needs of agricultural enterprises in professional training for the agricultural industry, search for interested organizations;
- Development of questionnaires for agricultural organizations in order to determine expectations and requirements for potential employees (for example, graduates, students, future students, students, other social groups)
- Providing information support.

Section 1. Brief summary of the business idea

Tashkent region is one of the agricultural regions of Uzbekistan. The total area of agricultural land in the region is 292,667 hectares, the total cultivated area is 292,667 hectares. In total, there are 34 agricultural clusters in the Tashkent region. Of these, 6 are cotton-textile clusters with a production volume of 200,489 tons, 5 grain clusters with a production volume of 21,497 tons and 2 rice clusters with a production volume of 18,706 tons, 23 fruit and vegetable clusters with a production volume of 222,645 tons. 107,446 hectares of land are assigned to them, of which 48,718 hectares are assigned to the cluster, and 2,460 farms included in the cluster are allocated the use of 58,728 hectares of land.

In the region there are 23 cooperations, 2 agrological centers, 6,645 farms, including 1,166 cotton-grain, 186 grain, 1,918 horticultural, 821 viticulture, 663 horticultural and melon crops, 779 horticultural-grain, 865 livestock, 15 silkworms, 4 poultry farms, 167 fish farms, 4 beekeeping farms and 57 other farms.

Tasks and functions of the agricultural department of the Tashkent region:

– implementation of a unified state policy in the field of agriculture and food security, which provides, first of all, for the digitalization of agriculture and the introduction of modern information and communication technologies in this area, the introduction of advanced experience and scientific achievements, modern resource-saving and intensive agricultural technologies in the Tashkent region;

– formation of a modern system for the preparation, use and export of agricultural seeds;

– implementation of a unified state policy in the field of plant protection, systemic measures to combat pests and weeds, agrochemical maintenance and soil protection;

– ensuring on a systematic basis the close integration of education, science and agricultural production, training, retraining and advanced training of personnel, taking into account the current and future needs of the agricultural sectors for highly qualified specialists.

All of the above determined the relevance of the functioning of the PASO office at the National University of Uzbekistan. Mirzo Ulugbek. The uniqueness of the business idea lies in the fact that there is a need to constantly familiarize the target audience, consisting of students and undergraduates of agricultural specialties, teachers of specialized disciplines, as well as agricultural producers, with modern technologies of precision farming in the production of agricultural crops to obtain maximum yield, minimize capital investments, maximize financial benefits and minimizing environmental impact.

Section 2. Brief Description of Products and Services

The PASO office will provide the following consulting and educational services to students and undergraduates of agricultural specialties, teachers of specialized disciplines, as well as agricultural producers of the Akmola region:

- analysis of the compliance of competencies/skills of agricultural graduates with the requirements of employers;
- marketing of the educational services market;
- implementation of marketing analysis of the labor market in the region;
- analysis of the requirements of potential employers;
- marketing of needs in the field of implementation and use of precision farming technologies;
- development and implementation of training courses and/or advanced training different target groups;
- analysis of the needs of agricultural enterprises in professional training for the agricultural industry, search for interested organizations;
- Providing information support.

Section 3. Competitor analysis

The National University of Uzbekistan named after Mirzo Ulugbek is one of the higher educational institutions in the city of Tashkent, training personnel for the agro-industrial complex of the region.

Accordingly, for the PASO office, operating on the basis of the National University of Uzbekistan named after Mirzo Ulugbek, the level of competition in the market of educational and consulting services in the field of agriculture in the Tashkent region is low.

Section 4. Target market analysis

In the process of analyzing the target market, potential clients of the PASO office were identified and grouped into three groups of listeners:

- workers of agricultural enterprises, farmers;
- undergraduate, graduate and doctoral students in agricultural fields of study;
- university teachers

Section 5. Marketing section of the business plan

Services will be provided primarily for agricultural producers producing agricultural products, as well as operating in rural areas. This activity is promising, since competition in this area is still low, and the need for services is high.

The marketing strategy of the PASO office is aimed at increasing the volume of services provided by maintaining high quality of services provided. Thus, the required level of profit will be maintained due to the unique offer on the market of courses and training, which will keep prices at a sufficient level without trying to reduce them.

To ensure a sufficient flow of clients, the head of the PASO office plans to enter into partnerships with other partner universities of the consortium, and it is also planned to attract specialized agricultural colleges. A separate point is to increase the recognition of the PASO office through promotional events.

A SWOT analysis of the position of the PASO office in the market of educational and consulting services was conducted (Table 1).

Table 1 - A SWOT analysis of the position of the PASO office in the market of educational and consulting services

<table>
<tr><td></td><td>Positive influence</td><td>Negative influence</td></tr>
<tr><td rowspan="5">Internal environment</td><td>Strengths</td><td>Weaknesses</td></tr>
<tr><td>Availability of a strong teaching staff</td><td rowspan="4">The customer base has not been formed</td></tr>
<tr><td>The customer base has not been formed</td></tr>
<tr><td>The presence of teachers with extensive practical experience in production among the teaching staff</td></tr>
<tr><td>Convenient location of the PASO office in the main building of the university in the city center</td></tr>
<tr><td rowspan="2">External environment</td><td>Opportunities</td><td>Threats</td></tr>
<tr><td>Development of promising new courses</td><td>Competition</td></tr>
</table>

Section 6. Production section of the business plan

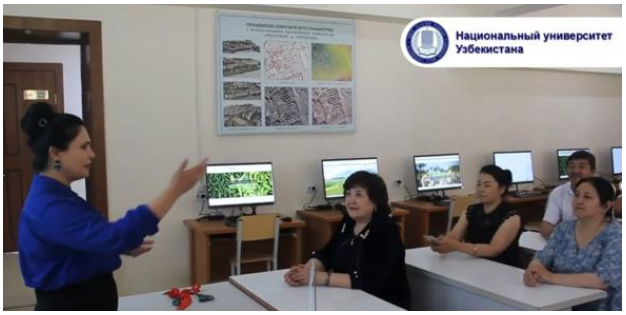
The PASO office is located in the main building of the National University of Uzbekistan. Mirzo Ulugbek on the first floor, room 109.

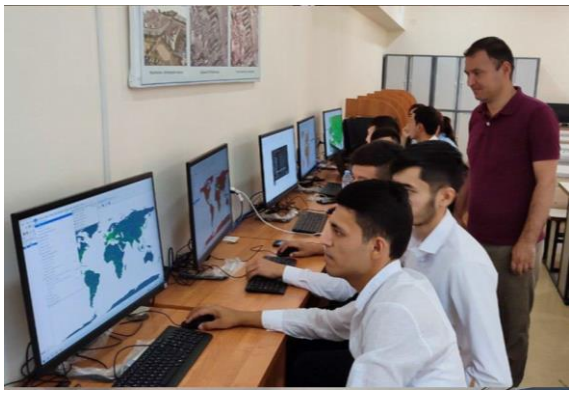
The PASO office staff member is a full-time university faculty member.

The PASO office is equipped with equipment purchased with project funds and placed on the balance sheet of the university (Table 2).

Table 2 – Equipment installed in the PASO office

Name	Quantity, pcs.
Smart board (Smart Board, SMB685 (included projector Smart V12)	1
Monoblock (Personal Computer all in one)	11
Laptop (Mobile workstation)	1
Printer (Color MFD A3, Epson L1300)	1
Printer (Monochrome MFD A4, HP MF 443dw)	1
Backup data storage (Personal Cloud Storage, Zyxel NAS326 (2*10Tb HDD)	1
Camera (Digital Camera (Kit), CANON EOS 4000D)	1
Smart TV (Smart TV, Samsung UE55TU7090UXRU)	1
Uninterruptable power source (UPS, SVC-V, POWERCOM Raptor RPT-2000AP LCD)	1
Network switch (24 port Gigabit Switch, HPE OfficeConnect 1820)	1
Sensor (IMETOS® IMT280 base station with precipitation gauge, air temperature and humidity sensor (hygroclip), anemometer (mechanical), pyranometer)	1
Sensor (ECH874EXT External interface for connecting 1x soil water volume sensor from Pessl Instruments or Meter Group, 4x Watermark tensiometer sensors + 1x soil temperature with 5m cable)	1
Sensor (SEN-SDI12 Internal interface for connecting 2x profile sensors for volumetric water content in soil such as Sentek or Aquacheck)	1
Sensor (IM5041D Universal Soil Temperature Sensor with PI Sensor Part)	1
Sensor (PI54-D/5 Soil volumetric water content sensor from Pessl Instruments with 5m cable)	1
MD510SM Watermark strain gauge with 3.5m cable	1
TNS107 Tensiometer Irrometer 90cm, without pressure gauge	1
SE1200S Profile sensor for volumetric water content in soil manufactured by Sentek D&D Triscan 120 cm: 12x temperature, 12x soil humidity and 12x soil salinity, with 5m cable	1

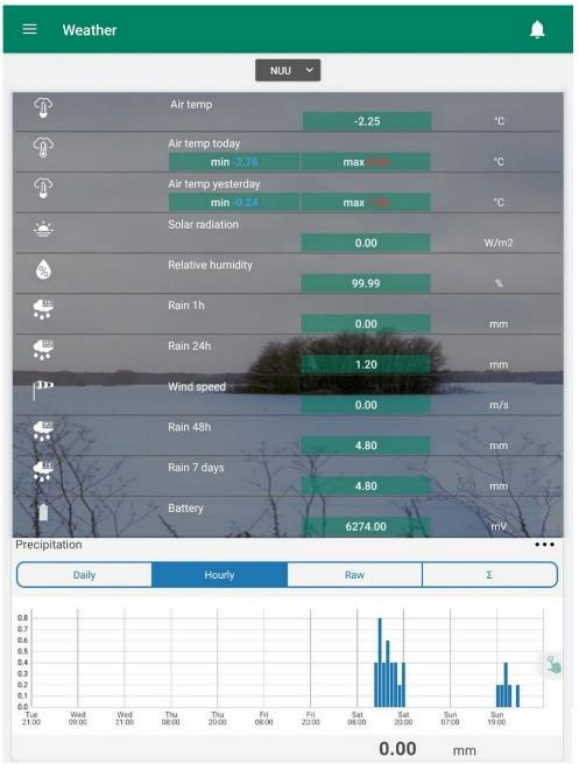




IMETOS® IMT280 base station with a precipitation gauge, air temperature and humidity sensor (hygroclip), anemometer (mechanical), pyranometer is installed in the courtyard of the main building of the university.

A full range of autonomous monitoring systems under the iMETOS® brand and FieldClimate cloud platform is used in all climate zones.


04.03.2024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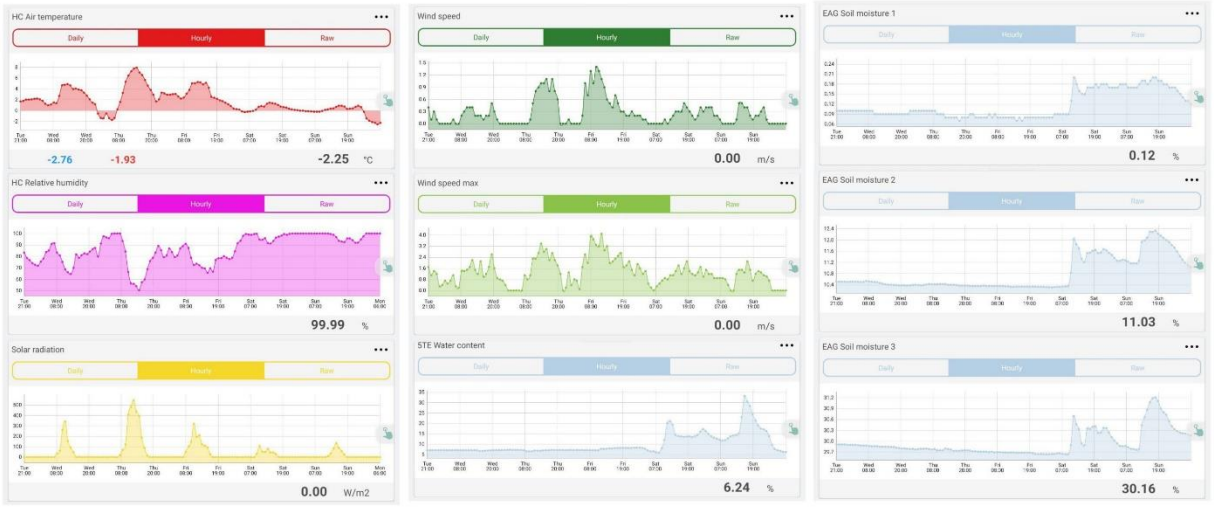
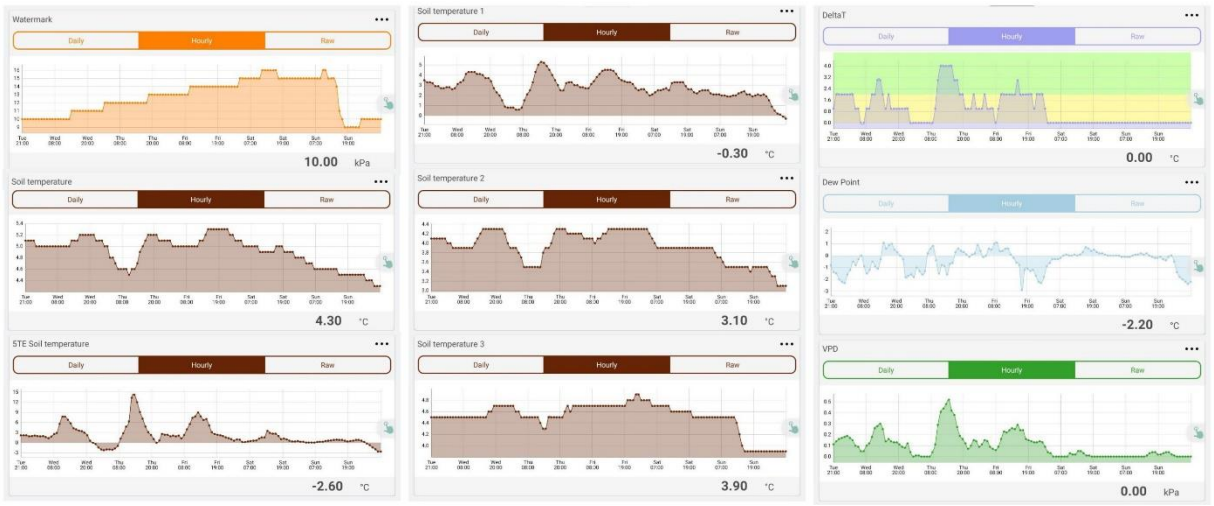
NUU
Air temp
-2.25
°C
Air temp today
min -2.76
max
°C
Air temp yesterday
min -0.24
max
°C
Solar radiation
0.00
W/m2
Relative humidity
99.99
%
Rain 1h
0.00
mm
Rain 24h
1.20
mm
Wind speed
0.00
m/s
Rain 48h
4.80
mm
Rain 7 days
4.80
mm
Battery
6274.00
mV
Precipitation
Daily
Hourly
Raw
Σ
0.00
mm


HC Air temperature
-2.76
-1.93
-2.25
°C
Wind speed
0.00
m/s
EAG Soil moisture 1
0.12
%
HC Relative humidity
99.99
%
Wind speed max
0.00
m/s
EAG Soil moisture 2
11.03
%
Solar radiation
0.00
W/m2
STE Water content
6.24
%
EAG Soil moisture 3
30.16
%


Watermark
10.00
kPa
Soil temperature 1
-0.30
°C
DeltaT
0.00
°C
Soil temperature
4.30
°C
Soil temperature 2
3.10
°C
Dew Point
-2.20
°C
STE Soil temperature
-2.60
°C
Soil temperature 3
3.90
°C
VPD
0.00
kPa

Project sustainability

Table 3 - Action plan to ensure sustainability of PASO office

№	Activities	Time
1.	Using the capabilities of the PAL (Precision Agriculture Laboratory) training laboratory in teaching students and undergraduates	Every academic year
2.	Organizing meetings with school graduates	Annually April-May
3.	Participation in the traditional conference “GIS in Central Asia”	Annually
4.	Inviting foreign experts in the field of applied geoinformatics, organizing lectures and master classes	Annually
5.	Establishing cooperation with industry organizations in the field of sustainable development	Annually November-December
6.	Establishing cooperation with the government of the city of Tashkent on the topic “Sustainable cities and residential areas.”	Annually April-May
7.	Preparation of innovative projects and participation in competitions	Annually January-September
8.	Establishing financial support for PASO office employees by concluding business agreements with industry organizations	Annually
9.	Use of the PASO office and PAL laboratory facilities for the preparation of theses, master's theses, master's theses and doctoral theses.	Regularly
10.	Preparation and printing of articles	Annually

Project risk assessment

Table 4 - Possible risks and ways to eliminate and minimize them

№	Name of risk	Risk assessment	Methods for eliminating and minimizing negative consequences
External risks			
1	Entry into the market of a strong competitor	Medium	Maintaining a high level of quality of services provided
2	Probability of decreased demand as a result of market oversaturation	Medium	Differentiation of services
Internal risks			
1	Decrease in quality services provided, as a result low level of qualifications of teaching staff	Low	Training current teaching staff
2	Lack of own funds for self-financing of the project	Low	Low Search for alternative sources of replenishment of office funds

Conclusion

According to the results of the analysis, it can be concluded that the PASO office will become self-sustaining within a year. An increase in the services provided is predicted due to increased demand. The risks of the project are low, since at the moment there is practically no competition.