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Bakalářská práce

Včelaření jako terapeutická aktivita v sociální práci

Beekeeping as a therapeutic activity in social work

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Prohlášení

Prohlašuji, že jsem tuto bakalářskou práci s názvem *Včelaření jako terapeutická aktivita v sociální práci* napsal/a samostatně a výhradně s použitím uvedených pramenů. Anglicky je práce psána z toho důvodu, že v rámci oboru, který je velice mladý (sociální farmy, zooterapie) budou i tak minoritní zájmy o téma spíše ze zahraničních řad, lingua franca je proto na místě.

V Praze dne 29.11.2015

Jiří Kunecký

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Anotace

Práce se zabývá včelařením jakožto činností, která může být přínosná nejen ve svém původním účelu, ale může sloužit lidem jako aktivita vedoucí k jejich psychologickému a sociálnímu rozvoji. Včely pak můžeme najít jako doplňkovou činnost v rámci sociálních farem, chráněných dílen, v psychiatrických léčebnách u nás i ve světě, v zahradách nemocnic i na střeších domů. Překvapivě je možné najít tento trend i u mladých lidí ve velkoměstech. Práce má za cíl ukázat tuto zemědělskou činnost ve světle sociální práce a díky popisu zajímavých realizací pojmenovat její výhody a nevýhody spolu s vlivem na chování a vnímání klientů. Včelaření se může stát v blízké budoucnosti jednou z běžných zooterapeutických metod, ovšemže se svou specifickou skupinou uživatelů. Tato skupina, její potřeby a požadavky jsou v textu diskutovány.

Klíčová slova

včelaření, zoterapie, sociální farma, komunita.

Summary

The bachelor thesis deals with beekeeping. It understands this activity not only in the first meaning, the agricultural activity itself, but it tries to show it as an option for psychological and social growth. The work tries to sketch out its dissemination in social farms, sheltered workshops, psychiatric clinics and gardens as well as on roofs in cities. Many case studies which took place here in the Czech Republic as well as in other countries are mentioned more deeply in the text. Surprisingly, such kind of beekeeping could be described as a trend of young people, especially in urban areas. The thesis wants to depict advantages and disadvantages of this therapeutic activity with special interest in description of its influence on the behavior of the people involved in the activity. Beekeeping as a social activity could grow in near future and may become one of the common methods used in zotherapy. However, the group of people interested in the kind of therapy is specific and should be described more in detail. It is the purpose of this work to do so.

Keywords

beekeeping, animal assisted therapy, farming therapy, social farm, community.

Poděkování

Rád bych na tomto místě poděkoval své rodině za trpělivost a podporu. Dále rovněž vedoucí bakalářské práce Mgr. Lucii Hubertové za vedení práce a kolegům včelařům, se kterými jsem se nad tématem setkal a kteří mi věnovali svůj čas rozhovorem o tématu práce: Mgr. Jířímu Hejnicovi, Silke Lederbogen a Ing. Daliboru Titěrovi, CSc.

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1 Introduction

When I started to keep the bees I also started to have a persisting idea – to connect together my hobby to some other activity having also some social or societal impact. The reason was simple - my personal experience and impression which I had during the very first hours while practicing my new hobby. I recognized something special: 1) it is an adventurous activity, 2) when the hive is open one forgets the world and problems around, 3) it is fascinating to look at some other society where You can see the destiny of one element (a bee) in broader context of the whole hive, 4) You have the feeling that You are a part of nature, 5) bees are not locked somewhere as other animals used in therapies are, they are free, 6) beekeeping takes usually place only during the days of nice weather which lets in the soul good impressions, 7) it is a spiritual activity (it is not just a coincidence that the priests of many religions were often also beekeepers), 8) the beekeeper strengthens his character during many critical moments, 9) the activity forms a mental micro-world where it is possible to survive during hard times in life, 10) in our subconsciousness we still have (maybe from the childhood or from media) the idea that beekeeping is a very good thing and thus, when doing so, we and the world get better, 11) it is so incredibly easy and straightforward in comparison to the complicated world, 12) everything in the hive (and the products too) smells and look so well possessing positive energy, 13) beekeeping is not limited to the activity itself but it is a broader discipline which requires open eyes and Your skills being broad – starting from botanics including ornithology and meteorology because all interventions are planned according to nature's calendar. In this way it is possible to continue, however, it is not the purpose of the work. It is just to express the motivation which led me to next steps. Although the idea is not new, as I recognized later, I bravely wrote an email to an unnamed director of an unnamed psychiatric clinic: if it is possible to put some hives to the garden of the clinic and try to start there beekeeping. The

answer was straightforward, it is a nice idea, however, the clinic is not an experimental laboratory to test something new there. Thus, I decided to perform a little research to know if something like this activity has happened already elsewhere. This was the first step to do the research, and, second, I decided to give a serious form to it and used this activity as a starting point for my bachelor thesis at Protestant Theological Faculty where I was studying “Pastoral and Social Work”. English was the language of choice because of small community in the Czech Republic interested in the topic.

During literature review I recognized that the number of scientific papers, academic theses and articles dealing with the chosen theme is not high and, moreover, many informations are hidden in national beekeeper's magazines, coded using local languages in newspapers or media. The reason is probably the lack of really important international scientific journals in the field of beekeeping as well as limited publication number in social work widely understood as more practical discipline (and not science). Even more broad themes such as social farming does not have an excessive number of scientific publications. The novelty of the theme plays also a significant role. Because of these reasons I asked colleagues equipped with knowledge of several European languages to search the web, however, always with the same result – many informations found about *apitherapy*, a way of application of stings and its healing potential, but not much about beekeeping as a way of social therapeutic technique.

Fortunately I discovered some places where beekeeping was introduced as a form of social therapy. I visited both of them personally because I wanted to see how this ind of beekeeping works in practice. One can be found in the Czech Republic (Magdalena o.p.s.) and the other in Mainkofen, Bavaria, Germany. Both places are more deeply described in chapter 3.

The work is divided into four parts. The first one is the introduction which should clarify my motivation and goal of the thesis. Second chapter is the description of beekeeping practice. The reader should understand here the tasks

which are usually made on-site during the year, their risks, challenges and requirements. At this place it is also outlined how they are suited to which group of clients and their needs. Third chapter is focused on review of existing activities which have been found in the literature and in the web. Last chapter critically discusses results of the previous chapters and concludes therapeutic effects of beekeeping as a social therapy.

I do not test any strong hypotheses in the thesis because: 1) there is not enough serious research papers and publications regarding the subject, 2) there are more types of work using beekeeping with people and they are not comparable, 3) social beekeeping is always strongly dependent on the leader of the group, 4) the research is about people impressions which are far away from being measurable, it is about quality, 5) there is not any common set of methods that can be used for the work.

However, it is not senseless to show in the thesis a new offer to the field of social work. The questions which will be answered in the thesis (using presentation of projects involving beekeeping and its social impact) are: a) is beekeeping usable as a medium to work in specific way with a group of clients?, b) are there some common impressions among involved clients?, c) what kind of information can be extracted from this unique summary of topics regarding the given theme?, d) are there some common problems that could be prevented or avoided? Answers cannot show the whole mosaic, nevertheless, they can uncover some important parts to address the main issues in the field.

In advance I want to express the fact that in the work there will be missing one important category of interaction between man and the bees which is the organized programs for children, courses for small beekeepers etc. These are very valuable for the education and human development, however, I do not consider them to be therapeutic in the sense how it understands this thesis. Also, there is not a common methodology and it is consequently impossible to say something valuable about it.

In the end of the first chapter I would like to express my personal approach to the topic. The purpose of the thesis is not to promote something new that solves many problems of today's world. It is a small contribution to the broad field of social work and it is made in humble hope that it can be useful to somebody.

2 Beekeeping and social work: possible junctions

2.1 Occupational therapy

Occupational therapy is a very old idea, however, to my knowledge, in modern times it was introduced by Philippe Pinel in 1793¹ who tried to employ mentally ill and showed the advantages of this approach. Throughout nineteenth century further development was made, however, the real revolutionary breaks were the two world wars which let a lot of people with a physical disability. This moved the occupational therapy towards the rehabilitation with main goal being the improvement of physical ability to allow the people work and join back the society. In last decade of twentieth century occupational therapy moved back to its roots and started to use again the holistic approach to man. Occupational therapy has nowadays become very fashionable in the case of working with mentally ill or addicted to drugs etc.

2.1.1 Social farming

In the context of beekeeping we can recognize two approaches which both fall into occupational therapy, however, both have a different methodology. First is *social farming* and is focused on gardening or work in agriculture (planting, work with animals). The latter is *animal assisted therapy (AAT)*, which uses trained animals to improve the emotional life of patients. Hlušíčková et al.² refers to these two types as *farming therapy in broader sense* and *farming therapy in strict sense* respectively. Although the nomenclature is not consistent, it is important for the beekeeping therapy that it integrates both approaches – partly it is agriculture and care about the animal and partly it is a relation to some strange animal with much mystery inside – the beehive itself.

1 Jelínková et al. 2009 p. 25

2 Hlušíčková et al. 2012 p. 1

Farming therapy is a widespread phenomenon in Europe and the USA, a high number of social farms is in the Netherlands which is one of the world leaders in this movement. Situation in the Czech Republic is not good enough, social farms are undergoing the pioneering period now³. Many practical issues regarding farming are well described in Hassink et al.⁴. The most common animals used in the therapy are goats, pigs, sheep; however, also planting is very popular, among these activities is horticulture and fruit farming together with nature and park maintenance. To my knowledge Hassink does not mention bees and beekeeping in the work. In this article there is introduced also a categorization of type of priorities and participation of the clients and the farms. One extreme is that the farm possesses a therapy and the product of the farm is not important; on the other side it is a standard farm where the production is important and the (disabled) people work there ordinarily. This is one of the questions while working with bees – is there some economic output?

Elings⁵ deals with interviews with 42 people who absolved a stay in a social farm and he concludes that the clients appreciate the social aspects such as belonging to a group, feeling at ease and informality. In addition, they also appreciate the space and being involved in useful activities. Undertaking farming activities helps participants feel useful and healthier and they develop more self-esteem, self-respect and responsibility. Working on a green care farm can contribute more structure and discipline to the lives of participants, which can create the foundation for new activities or (voluntary) work elsewhere. This is in agreement with Hlušíčková et al.⁶ who concludes that care of living creatures increases in the clients self-confidence, willingness to communicate, to work in a team and to better establish social contacts.

3 MAIE 2012

4 Hassink et al., 2009

5 Elings et al., 2008, p. 1

6 Hlušíčková et al. 2012, e56

2.1.2 Animal assisted therapy

There are many situations when it is advantageous for the client to be confronted to an animal (dog, horse, etc.). However, this is out of the scope of this thesis. There should be always present the therapeutic triangle – therapist, animal, client⁷ and the animal should play the role of medium between the client and therapist. A comprehensive review of research done in AAT is a study of Kamioka⁸ et al. who conclude that for people who like animals, AAT may be an effective treatment for mental and behavioral disorders such as depression, schizophrenia, and alcohol/drug addictions.

This thesis draws information from the diploma thesis of Silke Lederbogen⁹. It is focused on occupational therapy with animals with mentally ill and forensic patients from both theoretical and practical point of view. Lederbogen surprisingly wrote three pages about the theme “therapy using insects”¹⁰ which is not common in the literature about the subject and it was the reason why it was chosen as the reference. Interesting is the relation between the man and animal which offers more positive outcomes than expected: 1) the animal is a social catalyst – through presence of the animal the walls between the therapist and the client can be removed, 2) animals provide relaxation and allow sensuality (they lower the stress intensity). She also cites an older article by Drees¹¹ which deals with insects and based on this article Lederbogen goes further: she suggests how insect can be used: 1) to promote social learning through watching the social interactions of the insect, 2) to train cognitive skills by working in the hive, 3) to increase respect between patients by collaborating with other patients etc. During work with insects it is possible and fascinating to look into another world than ours. The mystery enriched by lack of knowledge can lead to higher interest about the subject, nature it-

7 Matoušek et al. 2013 p. 285

8 Kamikoa 2014

9 Lederbogen, 2012

10 Lederbogen, 2012, p. 81

11 Drees et al. 2003, p. 287-296

self. One of the advantages when working with insect, actually the honeybee, is possible active participation and ability to be a part of the team. Even in case the client is not allowed to do the work directly only the watching itself may be very interesting. One can keep distance from the problems of life when watching a different world. For somebody can be therapeutic to watch wild bees which can be kept in the yard in special places (drilled wood with different diameters) ¹², however, the most fascinating is – no doubt - to keep honeybees and harvest honey.

2.2 Beekeeping in a nutshell

2.2.1 History of beekeeping

Although human use of honeybees is probably as long as the history of human race, there are very interesting moments in recent history which have strong impact on our understanding and interpretation of natural phenomena. In a historic book *Český včelař*¹³ it is possible to read the understanding of biology of the colony just two centuries ago: the hive is called monarchy; the queen is a king; the reproduction is described very strange way – the larvae were thought to be found by the bees outside the hive and brought to the hive. According to the place where they were found they were set to be drones or workers (found in manure or clean water respectively). Thus, we should be always very humble about interpretation of the phenomena in nature. The similarity between the society organization (king and monarchy) and the interpretation of nature is here very clear. This issue is important if we want to use this approach of interpretation to the bee colony.

2.2.2 Introduction

Honeybees are flying insects which live in societies. They form a superorganism that is very well organized. This superorganism lives usually in limited

¹² in case of interest - Wildbienen webpage

¹³ Josef M. Kadlčák, *Český včelař*, p. 12-31

space - in nature in a tree hollow, however, usually it is put into a enclosed structure (wooden box) called beehive. If the beehive is empty and the bee swarm is put inside, natural combs are built. To avoid organic shapes of these combs, frames with melted-in flat foundations are being used.

Honeybees live of two basic types of nutrients: carbohydrates (nectar, honeydew) and proteins (pollen)¹⁴. When looking for flow in the blooms they pollinate many important flowers and trees. They bring back to the hive nectar or honeydew or pollen, depending on resources in the neighborhood, weather and time. If we simplify the biochemistry it can be said that pollen is needed to build the bodies and carbohydrates are needed as a source of energy. The carbohydrates brought to the hive can be transformed to honey. It is a long process which happens in the cells of the honeycombs.

Three sexes are present in the hive: (nearly) always one queen which is the female and is usually fertilized, about 2000 drones which represent the male sex and 50 000 workers which can be described as not developed females thus not being “she” but rather something in between, “it”. The purpose of the queen which is much larger than the rest of the bees is to lie the eggs into the cells and to spread the pheromones around the hive creating this way a unique colony. Drones (we can recognize them due to their rounded shape) have less important functions in the hive, the most important one is to fertilize the mother during mating flight which happens only once in queen's life. The workers are the most interesting ones because their role changes according to their age and situation in the hive. Mother lives for six years, drones for three months and workers in summer six weeks, in winter six months. During life a bee worker starts with being the cleaning bee, next it becomes a nurse bee, next guard bee and in the end the bee that flights out of the beehive. A worker bee usually dies during flight.

14 Veselý 2003

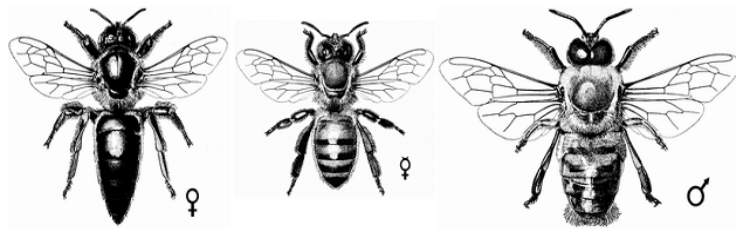


Fig. 1 Queen (left), worker (middle), drone (right)

If the bee is stressed or endangered it uses the sting to defend. Sting is a very sharp hollow micro-needle having a small dose of venom inside. Stings are very painful and it is good for safety to wear protective clothes. When the sting penetrates human skin, it is impossible to put it back, the bee loses it with a small portion of its entrails causing the bee to die. If the bees fight other insects this issue does not happen. It is tricky to interpret thus the bees as brave defenders – they do not know they are going to die when defending against the beekeeper.



Fig.2 A frame removed from the hive, construction of the hive visible

Bees communicate using pheromones and movements (waggle dances). It is the way they show to the other bees in which direction is the flow, if the hive is endangered or if there is the queen still present in the hive.

The reproduction of bees can be seen in two levels: first one is the colony level – the phenomenon called swarming, second level is the single bee level. First we describe the latter, the way how a bee is created. Eggs are laid by the queen singly in a cell in a wax honeycomb produced and shaped by the worker bees. The queen can choose if the egg it is laying will be fertilized or not and this leads to development of a worker bee or a drone. Drones develop from unfertilized eggs and are haploid, queen and worker bees are diploid. The larvae in the cells are immersed in royal jelly for a short period, after three days they start to be fed by nurse bees and become worker bees. The larva of a queen is fed the whole period of development by the royal jelly. Queens have special cells in which their development happens – the queen cell. They are bigger and look like appendices glued to the combs. The cells with all larvae are capped usually the ninth day (this is not precise, queens the seventh day) after the egg was laid down. The growth continues and the metamorphosis goes on, the larva is changed to pupa and finally to imago – a new bee which goes out of the cell. The larvae and the brood is commonly found in the middle of the hive and form usually a bowl-like shape. The brood is the treasure of the bees. The brood requires constant temperature which can be attained if the bees are sitting there and producing heat using their muscles. The brood is the most densely populated place of the hive.



Fig. 3 Mother among workers eggs in the cells are visible (left) and queen cells on a honeycomb (right)

The swarming is a very complicated process during which one colony is divided in two. The process can be described from the phenomenological point of view, nevertheless, the intrinsic processes going on through swarming are still not well understood. Swarming usually happens from May to July. When the first queen cell is capped the swarming mood starts to be in the air. One part of the beehive is preparing to leave it with the old mother being next to the entrance to the hive. At one moment thousands bees including the mother fly out of the hive and, because the mother is not a good flier, they settle down on a close branch where they usually wait until the scout bees find a hollow space. Into this new space the swarm moves in a few hours. Beekeepers would like to suppress swarming because it is for the beekeeper the end of production in the season.

2.2.3 One year in hive

2.2.3.1 Development of the colony in nature

For understanding of the basic techniques of beekeeping one has to know the biology of the bee colony which can be very well shown on colony (swarm) growth in nature. After a hollow space is found the swarm enters it and starts immediately to build the honeycombs from the top of the space. To the new top cells they put the honey they brought with from the original hive. The mother starts to lay down the eggs at the bottom of the new combs and the whole society moves lower and lower towards the bottom of the hollow leaving the top full of honey. The brood nest is going down. During wintertime the bees usually fly only rarely and rather consume the honey which is placed above the nest, so they move back to the upper parts of the honeycombs. This is not the only reason: they also move towards the temperature gradient in the hive. In the spring the bees go back to the bottom parts putting the honey up. This cycle can be repeated for some years. A colony does not spend in nature more than 5 years in one hollow.

2.2.3.2 The hive

What the beekeeper does is easy: he follows the natural cycle simulating it artificially in hive. Hive is a man-made structure made of wood or plastics, nowadays usually a set of boxes which can be combined to form the whole hive. The boxes allow the beekeeper to enlarge or reduce the space for the bees. These beehives are equipped with frames with melted-in foundations to assure good shape of the honeycombs. Each beehive has a bottom board and a roof. Orientation of hives is usually east or south. Big question in the beekeeping community is the dimensions of the frame which directly influences the size of the super (box). The bigger frame the heavier super but the big frames usually suit more to the bees needs. On the other hand, the smaller frame the lighter super and better work with it, contrarily the bees do not like the combs divided in so many small parts and there has to be much more frames. There are many issues which can be discussed, however, they are let for the last chapter.

2.2.3.3 Four seasons

Here there will be a sketch for an uninformed reader what does it mean to keep the bees, which activities are required etc. For more detailed information read some more recent book about beekeeping. During winter it is needed to prepare for the spring: 1) *frames* have to be made consisting of hammering the bars together, making tiny holes in the bars and thread a wire through it to form a construction onto which the foundation can be melted using a 12 V transformer, 2) *supers* have to be prepared, cleaned using heat gun.

In the early spring (and outside temperature $>10^{\circ}\text{C}$) the beekeeper check whether the queen is present in the hive. It can be recognized in a very short time by looking at the honeycombs if there is a lack of eggs or brood inside the cells. The beekeeper also checks the force of the colony, in case they are too weak he finds the queen, removes it from the hive and joins the colony

together with another hive. In later spring (recognized by looking at what blossoms - usually some fruit trees) the beekeeper reorders the frames to suit more the development phase of the hive. There are more options in this action, more about this subject can be found in Veselý et al.¹⁵. In late spring the apiarist puts a new super with new frames in the hive which is probably the most important moment in the whole year calendar because if the action is made too early the development of the colony will be significantly slowed down. If it is too late, there are too many bees in the hive and swarming can occur very quickly. In the break between spring and summer a first honey extracting takes place. It is the whole day spent with choosing the mature honeycombs, uncapping them, putting them to honey extractor, extracting, filling the glasses with honey and returning them back to the hives and cleaning. Next, another enlargement of the hive using another super can occur. In this period the swarms can fly out and it can be a big fun to catch them back to the hive. Another honey harvesting takes place, at least in the Czech Republic, usually in the middle of July. After this date the free honeycombs are slowly removed and the hives are reduced back to winter state. Application of drugs against the mites (*Varroa destructor*) takes place in the autumn.

2.2.3.4 Beekeeping products

Not only honey, but also other products can be used: 1) *the propolis* which is a resinous material that the bees use to fill the holes in the hives; it can be used as a local anesthetic and disinfection or inner use (not recommended for everybody), 2) *the royal jelly* which was described above – it is a paste full of many vitamins and natural remedies, 3) *beeswax* which is very good material for candle making. It is a good idea to use these secondary products for some other additional workshop activity. It could significantly raise the selling capacities and output of the beekeeping business. Even for clients it can be a good time spent with producing something nice.

15 Veselý 2003, p. 137-148 or Backyard Beekeeper 2014 for english



Fig. 4 Beekeeper with smoker (left), uncapping the honeycombs (right)

2.2.3.5 Beekeeping tools

To protect against the stings it is highly commended to use professional *protective cloths* during the activity. There is a plethora of them available in the market and overall cloths is a good idea since allergy to bee venom can happen every time even to somebody who haven't had any problems to date and can be severe and dramatic. *Gloves* are a needed tool which is used even by experienced apiarists. *Smoker* is another tool that helps to calm down the bees and should be present during each session. It calms down the bees using the smoke which induces in the bees feeling of having a fire in the beehive. The bees consequently start to suck the honey for the case of evacuation and look like calmed down. It should be used with reason because it is not good for the bees. Nice prevention can be to go to the hives in the morning and only when it is a good weather. *Honey extractor* is probably the second biggest investment after the hives. It is a very rare mechanical device which uses the centrifugal force to extract the honey. The honeycombs have to be uncapped to use it. Last requirement for beekeeping is a *facility* with source of water. It should be possible to store the bulky unused supers during wintertime and all the equipment. Water is needed to clean after honey extracting and this is very important to have somewhere a water tap.

2.3 Beekeeper's competences

Because this publication should serve as a guide for those who are interested in therapeutic use of beekeeping, it is important to write down the activities which are needed to successfully run the beekeeping business.

Frames preparation requires good gross and fine motor skills for hammering the small nails, threading and tightening of the wire through holes as well as melting of the foundations. Mental health should not be required. The work is not dangerous. Cleaning of the supers can be also very calmed down job, however, dealing with heat gun requires some level of alertness.

Working in the bees requires, first, some physical power (big frame full of honey has about 3 kg, Langstroth half-super around 15 kg, Czech super 39x24 full of honey 30 kg). However, the problematic job can be done by two or more persons which is preferable. Second, he has to have at least average motor fine and gross skills. Third, the apiarist has to be resistant to pain and cannot be terrified by insect and especially bees (and even phobia). Fourth, because the therapist has to be still present during the session there is no need to understand, at least in the first sessions, what is going on during the intervention in hive. It means there is no requirement about psychiatric and mental health. However, for those who want to perform this task on their own e.g. in rest homes etc., there is also the requirement to be mentally healthy to be able to attend and understand lectures and contexts.

Processing other bee products (honey, wax, propolis, queen jelly) can be done nearly by everyone and is a very good job for every social service. If not as an economic contribution then at least it is a very good advertisement.

2.4 Clients

2.4.1 Which social services may profit from bees

Clients of social services are very diverse people and it is very tricky to categorize them. Another approach will be used: all social services from an index

of Matoušek et al.¹⁶ will be filtered and recognized whether they are compatible with beekeeping program or not. If so, realistic suggestions or examples will be made. Social services shown here are understood more wide from those described in the law¹⁷.

Youth club – as a contribution to variety of activities there can be somewhere in the yard some hives or the hives can be made by hands during some afternoon. It is also

Residential institutions for people with disabilities – although very broad category, it is possible to find some applications, e.g. in an institution caring about intellectually disabled patients to have a sheltered workshop intended for preparation of frames and hives.

Sheltered housing – as one of the practices to maintain and improve the ability of the clients to care about themselves some beekeeping can take place in the yard of the institute with external beekeeper coming and helping there. One beehive can be given to somebody to care about it.

Workshops for people with disabilities – depends which kind of disability, nevertheless it is possible to produce in such a workshop some secondary products or prepare the stuff for beekeeping.

Psychiatric hospital – broad range of use, people can try to keep the bees in the hospital garden together with the staff and bring from there the knowledge of beekeeping and continue with the activity when they are back in normal life.

Day-care centres – very individual and dependent on the level of care about the person, somewhere it could be possible.

Community centres for seniors – beekeeping can be a great opportunity to share one hobby among active seniors.

16 Matoušek, 2013, Index

17 Act. No. 108/2006 Sb.

Rest homes – among retired persons there is the highest percent of beekeeper. However, nearly no beehives exist in rest homes in the Czech Republic. This can be a perfect junction between hobby, activity and elderly people.

Programs for children and youth at risk and Youth offending teams – it is possible to have somewhere in the park some hives and try to just simply keep the bees with the young offenders.

Prison – many prisoners have a lot of free time in prison, usually without physical disabilities, not old, it can be challenging to have the honey from prisons.

Offending behavior programs – care about honeybees in some park inside a city could be advantageous for both sides.

YOUTH CLUB	FAMILY CENTRES
DROP-IN CENTRE	MARRIAGE COUNSELING
INSTITUTIONS FOR CHILDREN AND HEALTH	SOCIAL AND LEGAL PROTECTION OF CHILDREN
RESIDENTIAL INSTITUTIONS FOR PEOPLE WITH DISABILITIES	EARLY INTERVENTION SYSTEM
SHELTERED HOUSING	MULTISYSTEMATIC THERAPY
WORKSHOPS FOR PEOPLE WITH DISABILITIES	PROGRAMS FOR CHILDREN AND YOUTH AT RISK
COUNSELLING SERVICE FOR PEOPLE WITH DISABILITIES	FOSTER CARE
PSYCHIATRIC HOSPITAL	ADOPTION
THERAPEUTIC COMMUNITY	SOCIAL WORKER IN SCHOOL
SHELTER FOR MOTHER WITH CHILDS	MOBILE YOUTH WORK
DAY-CARE CENTRES	YOUTH OFFENDING TEAMS
COMMUNITY CENTRES FOR SENIORS	OUTREACH WORK
REST HOMES	FIELDWORK IN SOCIALLY EXCLUDED LOCALITIES
HOSPICE	PRISON
SELF-HELP GROUPS	SOCIAL WORK WITH OFFENDERS
SERVICES FOR HOMELESS PEOPLE	OFFENDING BEHAVIOUR PROGRAMS
SOCIAL WORK WITH WOMEN IN SEX INDUSTRY	SOCIAL SERVICES FOR DOMESTIC VIOLENCE OFFENDERS
CITIZENS CONSULTATION CENTRE	SOCIAL WORK WITH CRIME VICTIMS
SOCIAL FIRMS	SERVICES FOR VICTIMS OF DOMESTIC VIOLENCE
SUPPORTED EMPLOYMENT	HUMANITARIAN AID
DEBT COUNSELING	INTERNATIONAL SOCIAL WORK

Tab. 1 Social services which can be compatible with some beekeeping project (green) and those which are unusable (red)

2.4.2 Security

Very important for the success of the beekeeping inside programs of social work is security of the people involved. Since bee is the most venomous animal in the Czech Republic, it is very important to wear the protective clothes when working in the hives. Patients should be aware and schooled in dangers which are connected to beekeeping. This type of passive safety during beekeeping has to be improved by avoiding the dangerous situations: 1) do not make any noise around the hives, 2) go to the bees only when there is good weather, 3) care about the character of the beehive which is mainly determined by the queen; if the pungency of a hive is extreme, it has to be moved to another place and the queen has to be changed; this change can take about two months. The bees which have queens from registered breed are usually very calm.

2.5 Energy

Motivation of the clients is the most crucial and sensitive point in the whole idea. Motivation can be attained using three ways: 1) the rational way – what will the client gain from this activity?, 2) the charismatic way – somebody will be the source of energy and the clients will try it and maybe continue; light produces light, 3) the authority – the patients will do it because somebody wants them to do it.

From these three possibilities the first is very naive, nobody will be in social services so focused to be able to think this way. On the other side, if authority is used for the motivation it even lowers the real motivation and the feeling of must disqualifies the activity. The only working approach is the enthusiasm of the beekeeper or the person that is becoming beekeeper. It can be spread over the whole neighborhood.

This is in accordance with work from Daniela Egger¹⁸ who wrote an article about fascination which is actually the main source of motivation in beekeeping. The organization of the colony, the amount of flights of a single bee, the simplicity of the tools, the straightforward way of harvesting sweet liquid from billions of flowers using thousands of small animals, this everything forms a fascination that can be shared with the patients and it is the energy that can be crucial in the beginning of the therapy.

2.6 Economy

Although it is known that beekeeping is not the way how to earn money economical questions can be interesting for somebody. First, the investment in the beginning can be high because all the equipment is costly. To be more concrete one beehive costs in the Czech Republic approximately $B=100\text{€}$, one frame approximately $F=1\text{€}$, and one kilogram of honey $N=5\text{€}$. In middle Europe we can expect approximately $E=30$ kg of honey per year from one hive. We have H hives in each of the hives there is about 30 frames. Usually the beehive and frames are usually bought only once. The equipment for beekeeping (clothes, honey extractor) costs $I=600\text{€}$. The output O after Y years of beekeeping can be written as:

$$O = H \cdot (N \cdot E \cdot Y - B - 30 \cdot F) - I \quad [\text{€}]$$

This formula can be used for modeling with other values than the current ones. Five years modeling is shown in Tab. 2. It can be seen that it has no value to buy only one or two hives if we want to practice beekeeping for more years. Tab. 3 shows economic result when the honey is presented as a type of sponsoring of the organization and the price per kilogram is set three times higher (15€).

18 Daniela Egger 2012, p. 4-8

	one hive	five hives	ten hives
years	€	€	€
0	-730	-1250	-1900
1	-580	-500	-400
2	-430	250	1100
3	-280	1000	2600
4	-130	1750	4100
5	20	2500	5600

Tab. 2 Investment and what can be expected after five years if we consider the price of honey $H=5\text{€}/\text{kg}$

	one hive	five hives	ten hives
years	€	€	€
0	-730	-1250	-1900
1	-280	1000	2600
2	170	3250	7100
3	620	5500	11600
4	1070	7750	16100
5	1520	10000	20600

Tab. 3 Investment and what can be expected after five years if we consider the price of honey $H=15\text{€}/\text{kg}$ (sponsor price)

3 Existing projects

3.1 Addiction treatment and bees

3.1.1 Magdalena o.p.s.

Magdalena o.p.s. is a non-governmental, non-profit organisation (founded 1997) active in the Central Bohemia Region. It provides a comprehensive system of services and assistance in the prevention and treatment of addiction to narcotic substances. It is located in Mníšek pod Brdy, a mountainous area close to the capital - Prague. The services include primary intervention, field programs, residential care in therapeutic community and sheltered accommodation to name the most important ones. In 2011, one of the employees Jiří Hejnic, a beekeeper, decided to put two hives to the garden and started to keep the bees. Information about the practice was published in the journal *Včelařství*¹⁹ focused on beekeeping in the Czech Republic.

The hives were used as a contribution to the preexisting program of social farming (planting, breeding goats etc.). The activity was not organized in special way. It was an offer for the clients to try something new and at least in the beginning many of them appreciated it. The chief therapist concludes in the article that the clients were enthusiastic about beekeeping including not only the work by bees itself, but also derived activities, like producing the hives and frames in the carpentry workshop. This job had continuously grown to the extent that some limited edition of hives was sold to other beekeepers. In conclusion the activity was found to be interesting and fascinating to some clients.

Author of the thesis visited once this place talking to Mr. Hejnic about the experiences and plans for the future. He stated the activity is not planned to become a serious form of therapy but rather a contribution to rich mosaic of farming techniques offered in the NGO. Last information about the situation in Magdalena was from 2015 when there were six hives placed in the garden

¹⁹ Jiří Hejnic, 2012, p. 362

and the project was continuing, however, not many clients were involved anymore. Nevertheless, finally, one of the clients has become interested in the activity to that extent, that he continues to keep the bees in Magdalena with Mr. Hejnic even after he finished the therapeutic program.



Fig. 5 Mr. Hejnic working with bees in Magdalena, o.p.s.

3.1.2 Mainkofen – Bienenterapie

„Das Bezirksklinikum Mainkofen“ is a hospital in Niederbayern, Germany. It is specialized in psychiatry and neurology. One of the departments is also a forensic clinic where the staff works with psychiatric, drug addicted or other forensic patients. This clinic is also focused on occupational therapy. The therapy itself consists of work in workshops and outdoors. Moreover, they have also a specialized team for animal assisted therapy (AAT) which works not only for the forensic clinic but is used in all departments of the hospital. The flagship of AAT in Mainkofen is the use of dogs and horses for the interventions, however, in 2012 there was started a beekeeping project - „Bienenprojekt“.

The author of the thesis absolved a two day visit in Mainkofen on behalf of invitation by Silke Lederbogen. Silke is a social pedagogue specialized in oc-

cupational therapy with animals. She is the author of the idea to connect beekeeping and occupational therapy in Mainkofen too.

First, the project was intended to be just a way how to spend free time with some activity that has some additional value. Next, it grew to a serious form of therapy where the patients are involved. A beekeeper from neighborhood helped to the employees of the clinic to set up the beehives and equipped the therapists with basic theory. The knowledge was even deepened using literature study and, as it is usually when dealing with bees, by practicing. First two years of the project the beekeeper was coming to the hospital to help. In Mainkofen the project was started with two hives increasing the number to four.

As described in Zitzelsberger and Lederbogen²⁰ the purpose of this therapy with bees is to enhance self-confidence and increase frustration tolerance of clients through learning from mistakes. The patients should improve their patience through concentrated slow movements throughout the interventions in hive. The contemplation connected to the slow movements of bees in the hive should inspire them to slow down and rethink their usually very fast lives. Patients are often due to their history closed and the presence of an animal itself may play a role of a good bridge between the patients and the personal. Usually, as it is common in occupational therapy with animals, they reduce the stress and anxiety in patients. The clients work together and have to help each other and thus are better socialized. Not surprisingly many patients involved in the beekeeping group want to continue with it even after their return to life outside the clinic.

During my stay in Mainkofen I really appreciated the hospitality of Silke and co-workers. I went with some patients to look into the hives, we tried to communicate to them, I visited also the workshop where they work every day. However, my poor German together with limited English use of the pa-

20 Zitzelsberger and Lederbogen, 2012, p. 1-2

tients made it hard to speak. During my stay there were not all patients present and thus I was in contact only with some of them.

Unfortunately I lost all the data I gathered in Mainkofen during my visit thanks to a hardware error. Many materials I saved because I had them also in printed form. This is the reason why I didn't put any contemporary pictures of the staff from Mainkofen.



Fig. 6 Clients with Gerti Zitzelsberger, one of the therapists (left); the clients working with bees (right).

3.1.3 Beekeeping initiative Ireland

Another place where bees were used for occupational therapy with animals was the Central Mental Hospital (CMH) in Dundrum, Dublin, Ireland²¹. CMH is, among others, focused on work with forensic mentally ill people who come into contact with courts, prison service etc. Patients at the hospital can receive treatment of the mental illness which can include too other therapeutic activities, such as occupational therapy with animals. In this hospital, there are other strange animals present to fulfill this goal - chickens, a dog and even a turtle. Two beehives should serve as a contribution to this therapy. In 2012 a team of nurses, doctors and social workers with money raised by

21 Martha Finnegan 2015

patients' families built together with the families from scratch the two beehives. Surprisingly there was a high level of interest in this activity among the patients of the clinic. Interesting idea was to undergo a 10-week beekeeping course both sides – the staff and the patients together which was ice-breaking for both sides. Security was ensured using good protective clothing for both patients and staff.

There were some additional positive effects for the patients: 1) the feeling of being a part of a community, 2) the interest in life of the bees - the patients started to read the books about it, 3) there appeared a new theme to talk about, 4) self-esteem of the patients increased over time. The number of hives over time was enlarged to five sharing them with other beekeeping clubs. The income from the sale of honey goes back to the bees and thus is self-financing. The project won a patient education award at the 2014 Irish Healthcare Awards.



Fig. 7 The staff of the Central Mental Hospital with clients and two beehives

3.1.4 Suchtfachklinik St. Marienstift

Recently (2015) there were two beehives placed in Suchtfachklinik St. Marienstift²² in Neuenkirchen-Vörde, Germany. The clinic is focused to treat addictions such as addiction to drugs, alcohol, pathological gambling etc. The two hives are supposed to help patients addicted to alcohol and to gambling through a free-time activity which strengthens their responsibility. They will be responsible for the life of the bees. The event is so recent that not more information were gathered about the project.



Fig. 8 Andreas Harbort (left) with director of the clinic Thomas W. Heinz looking at the honeycomb in Suchtfachklinik St. Marienstift Neuenkirchen-Vörden

3.2 Mental disability and bees

3.2.1 SWC Črnomelj

In 2012 an interesting project at Social Welfare Centre Črnomelj in Slovenia dealing with clients with mental and physical impairment of several degree started to take place. The information about the event was gathered from article by Andrej Sever²³. From 47 residents of the center a some clients were selected to care about four hives according to the key: 1) permission from the

22 Elmar Stephan, Die Welt, 2015.

23 Andrej Sever, 2014, p. 1-2

relatives to work with bees, 2) degree of disability, 3) comprehension capabilities, 4) health conditions, 5) motor capabilities. The interested clients tried to keep the bees. At the beginning of the project the residents visited a beekeeper, talked to him and opened a hive. Then they started performing some basic tasks, such as making frames and recognising basic tools (hammer, nails, tongs, stands, wires). Sometimes it was necessary to repeat some things more times.

Nevertheless, interesting (and unexpected) output of the experiment was that it became apparent that adults with moderate mental disabilities are able to perform some tasks better than people without disability and who had well practiced manual skills. Residents who were members of the beekeeping club may well have strengthened their self- confidence and self-esteem.



Fig. 9 A client working on a frame in SWC Črnomelj in Slovenia²⁴

3.2.2 Šťastný domov

Šťastný domov is a non-governmental non-profit organization dealing with multiple types of social services and resides in eastern Bohemia in village Líšnice. It possesses a plethora of services including foster care, sheltered workshop, rehabilitation programs and free-time activities to name a few.

24 Andrej Sever, 2014, p. 1-2

Unique among other services is the use of beekeeping for activities in sheltered workshop. They have about fifty hives thus being a serious honey producer (in comparison to other services mentioned above). In the facility there is about fifteen clients with severe mental disability. From those clients only three of them are able to care about the bees. The best practice for them is usually the supporting activities such as hammering the frames, melting the midribs of combs etc.

Interesting are the economic issues: the director Iva Kaplanová concludes that although fifty hives produce enough honey and the activity can be considered as already significant for honey sale, the income to the budget of the organization is not significant. This is in agreement with Veselý²⁵ who refers to the number of 200-300 hives to be the threshold value for economics of standalone beekeeping. However, in Šťastný domov it is the joy and positive effects of the work that form the most important thing for the clients. The activity allows the clients to be a part of something and the bees point to nature.



Fig. 10 One of the children uncapping the comb in Šťastný domov

25 Veselý 2003, p. 171

3.3 Youth at risk

3.3.1 Patrick Tierney's research

Patrick Tierney in his doctoral thesis shows hard data about beekeeping and its social or educational influence²⁶. He studied young people (13-17 years old) being at risk or involved in offending. Tierney does not believe a punishment is something that can prevent the youth to re-offend²⁷. The main idea of the work is a comparison of a program of experiential education, in this case a four days program of beekeeping, in three countries Azores, Canada and the UK. Bee inspired was unique because it involved the participants' immersion in learning the practical skills of beekeeping. The activity consisted of spending time in nature (in tents), lectures about beekeeping, and practical beekeeping in beehives. During the programme, the participants were observed closely and their behavior, experiences and comments recorded. Additional data were collected through written questionnaires and focus group sessions during and at the completion of the program. Twelve and eighteen months following the completion of the program an evaluation of re-offending rate was again made.

This very deep study shows very interesting results about the capability of this activity to improve lives of youth at risk. The re-offending rate of youth in many countries is similar to England and Wales, 56 % within one year. After eighteen months from the 45 participants of the course there were only three re-offenders²⁸ (7% !!). Although the results are made only with small groups and their validity could be thus doubted, it is one of the clearest evidences about the power of such an experiential program and its outputs. However, not only re-offending rates are interesting. The overall evaluation of questionnaires regarding enthusiasm and skills acquired by the participants of the course is optimistic. First, there is a plethora of positive comments by

26 Tierney 2012

27 Tierney 2012, p. 10

28 Tierney 2012, p. 3

the participants of the activity (usually qualitative ones). Despite this fact some of the outputs can be categorized and graphed (see Fig. 11).

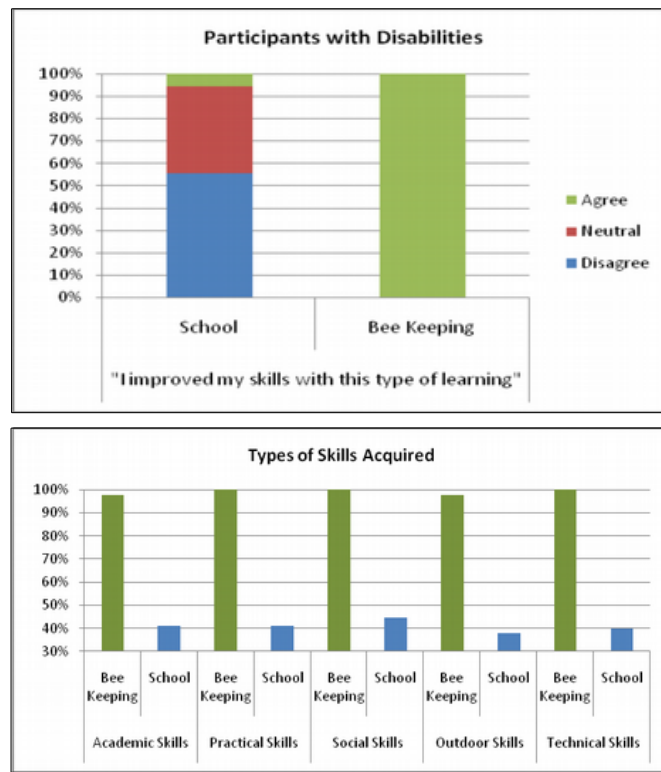


Fig. 11 Results acquired from the questionnaires made by Tierney et al.²⁹

This study is a pilot project and shows very positive impact when working with youth at risk in this way. There are probably much more activities which would be suitable for this kind of experiential education. Nevertheless, bee-keeping is something so fascinating, adventurous and new for the children that it can be a unique tool for this activity. Especially nowadays when many children are not connected to nature and are surprised how this activity in nature can be attractive and adventurous.

²⁹ Tierney 2012, p. 186-187.

3.4 Bees in the cities and community work

Recently there has been a big boom in urban beekeeping. Although it is not something that deals with disadvantaged people and consequently it cannot be considered as a standard therapy, it hides a significant power and effect for the people involved. The reason why it is so popular is actually the same as in the previous examples. It is the connection between hobby, sharing something in a community and fascination in nature. Moreover, the cities are very good environment for beekeeping since the gardens offer a lot of blooming plants and the density of bees is lower than in the countryside. The bees are able to „filter“ the heavy metals which are commonly found more in cities producing consequently clean honey. Diversity of plants in cities is much higher than in monocultures planted in the fields outside the cities. Thanks to this phenomenon the flow (food) is nearly always present and building up the colony is very fast and stable.

The honeybee is a symbol. It points to nature, to sun, to honey, to purity and to diligence. A man who is a beekeeper is always taken as a brave nice guy. In postmodern times when many ideologies have broken down it is one of the symbols we still understand. People living in cities have their own reality which is not connected to nature at all. Is it surprising that one is so fascinated by beekeeping when he wants to find something that is interesting, a bit crazy and at the same time needed and connecting us to nature?

Beekeeping has thus changed in cities its face from the job for seniors to a (post)modern hobby for young people. Because social work does not have limits and one of its forms is also community work, it is worth noting some successful projects which exist throughout today's world. They are usually somehow connected to social work and social inclusion, however, openness is here an importance issue and the categories are not usable for this kind of organizations.

3.4.1 Hives for humanity

Hives for Humanity³⁰ is a non-profit organization residing in Vancouver. It encourages community connections through beekeeping. Through mentorship based programming it creates flexible opportunities for people to engage in the therapeutic culture that surrounds the hive. The NGO fosters connectivity to nature and between the members in the community.

The NGO was founded by Julia and Sarah Common³¹. Hives for Humanity Society was established in September 2012, as a result of this first season with that single hive. It now manages over 100 hives in communities throughout Vancouver, keeping the core work focused on providing opportunities to those living at-risk in one of the gritty quarters of Vancouver – Downtown Eastside. Except direct beekeeping with other members of the community they organize workshops and educational activities, plan pollinator meadows making the city more green. It is one of the examples where the community is diverse: for somebody it is therapeutic (e.g. addicted to drugs), for somebody meditative opportunity which grew from an initiative of a few persons.



Fig. 12 Beekeeping workshop (left), a beehive in a meadow in the streets of Vancouver (right)

30 Hives for Humanity 2015

31 Jeff Lee and CBC News interview 2013

3.4.2 BeeUrban London

BeeUrban London, UK, is a social enterprise that wants to positively influence the urban environment through supporting local people and promoting positive, ecologically sound practice around urban greening, building, farming and particularly beekeeping.³² There are more places where the social enterprise acts including National theater. Not only beekeeping itself is interesting for BeeUrban: they support the change in the city turning derelict and abused parts of the city into green horticultures. It is based on the work of volunteers which are enthusiastic in beekeeping and urban greening and are able to care about many (30) beehives in the streets of London. On this place it is worth noting that there is a very different support from the officials in London³³ in comparison to other cities.



Fig. 13 Community beekeeping in London with BeeUrban

3.4.3 The Golden Company

Based in London, the Golden company³⁴ is another social enterprise which is specialized in beekeeping and teaching of beekeeping and entrepreneurship. The hives are spread over the city and placed also on the top of the roof which is a common approach in big cities. They produce not only the honey but also natural cosmetics. They combine both the community and the com-

32 Alison Benjamin 2014, BeeUrban 2015

33 for interest <http://www.capitalbee.co.uk/>

34 Golden Company, 2015

mercial worlds helping interested people to learn beekeeping; nevertheless it is an interesting concept - trading and earning money through education and cooperation with big companies and use the acquired money to educate about bees and nature.

4 Conclusion and discussion

In the introduction four questions were posed and should be answered:

a) Is beekeeping usable as a medium to work in specific way with a group of clients?

Yes, obviously from the chapter three many applications of beekeeping in social work have been done to date. Although the examples lack the power of a scientific proof, there can be seen two areas which are well justified, one of them is the work of Thierney³⁵ with youth at risk and the second is the community beekeeping in big cities. Thierney's approach is based on serious research and the valuable results are waiting to be checked again in future studies. The biggest limitation is in a relatively low number of participants. For example a youth detention center could be a good place where such a kind of research could be done. Despite those limitations the re-offending rate reduction from 56% to 7% after eighteen months is evident. Since in this period children look for orientation in the world it seems logic that the offer of a nice and good activity is crucial. Another question regarding Thierney's research is if it is the beekeeping itself that is so interesting - and not the experiential education itself? The same results might be attained by other activities. No doubt, also other activities can be interesting but it does not invalidate the clear output that beekeeping *can* be the activity. And as obvious from many references it is a common activity that we can share, something adventurous and adrenaline-inducing, good and rewarding and absolutely new as an experience.

Community beekeeping is, on the other side, a movement that is really widespread in big cities and has already proven to be a trend with strong inclusive capabilities. It is not a solve-it-all solution but it is exactly the small stone put to the mosaic of today's modern understanding of social work.

35 Thierney 2012

All the remaining activities are more experimental and we should wait until some more hard data will be possessed. Until now we can conclude that the activity and its research in this work were successful because it revealed that 1) it is an interesting activity both for the clients and the staff in the organizations, 2) recognition that sharing the experience and learning something new is very beneficial for both clients and the employees, 3) it can have some impacts on individuals, 4) it is a fascinating work for some people through which the therapist may be closer to the clients/patients.

b) Are there some common impressions among involved clients?

In all cases which were shown here in the work there was reported improved self-esteem, often connected to better self-sufficiency³⁶. These impressions, however, may be dependent on the type of social service, e.g. children with mental disability would feel well if they hammer a frame, contrary, a psychotic patient in forensic clinic will enjoy the interpretations of life in the hive. Thus, in this number of examples it is not an error if there are not more common feelings.

c) What kind of information can be extracted from this unique summary of topics regarding the given theme?

The most important output is the fact that can be visible from the existing projects: if the people are motivated they can do crazy things. However, the most important is the motivation of the people. The motivation for beekeeping is usually caused by the use of the commonly understood positive role of bees in nature and in society. This is the starting point which can be enlarged by using our enthusiasm and group energy. The project showed that through doing strange interventions (forensic people watching insect) one can get more close to the clients through sharing of the theme and friendly atmos-

³⁶ Hejnic, CBC News, Jeff Lee or see Emma Bartholomew and the story of Ezekiel, a fairytale

phere where the therapist becomes just a beekeeper and the client becomes just a beekeeper.

It was not reported or seen that the patients were aware of being stung by a bee. This is important information, one of the doubts about the method was it is painful.

Beekeeping can be an activity which can be performed after leaving the social service. This can lead in many people to a changed behavior.³⁷

Beekeeping has a strong potential because of the common pre-understanding of the bees, probably based on our childhood reminiscences. It can be well used not only for motivation but also for discreet advertisement: to sell the honey from the hives for some good price is a perfect exchange of support from the people to the organization for a symbol of patience, diligence and society. Through this sponsorship also some disabled people can keep the bees. This is positive feedback. In the chapter 2.6 it is shown in the tables that if the price of honey becomes sufficiently high but still acceptable if understood as a sponsor gift it can be even interesting as a contribution to the budget of the organization.

d) Are there some common problems that could be prevented or avoided?

The problem which can be visible to an experienced beekeeper is in the number of hives: low number is a very inefficient way of keeping the bees. Through wintertime some hives die. It can be a third or even one half. It is always very good to have more hives to deal with because the weak ones can be joined with some other forming a strong colony which can be later in the spring divided back to two during swarming process. It is like breathing: for winter there should be many hives whose number will diminish after winter. In chapter about economy of beekeeping the same idea was drawn – more hives are more economic as well and can produce more honey that can be

37 Hejnic, Emma Bartholomew 2013

used or sold. The activity should be more intense, the work in the bees has to be long enough, it is not just about checking and watching the animals but about work. It is a work therapy and it should be a compromise between fascination and work.

Not only these questions should be answered but there is more to discuss. First, does exist an emotional relation between the client and the bee or a whole colony? This is very important question since during each intervention in the hive usually ten or more bees die. During wintertime some die. It should not be understood as cruelty or to feel guilty for that. One should look at the colony as at a domesticated animal and we have to care about it. Without our care it dies in the nature because of the mites. We care about the animal and during this care it is impossible to care absolutely about every bee. However, among people there can be persons which are too sensitive for that and for whom it is not a good type of therapy.

Another theme for discussion is the human interpretation of the life inside the hive. My understanding to the theme is based on a book of Stanislav Komárek³⁸ who is an expert of culture-nature relationships and who warns about interpretations of the animals noting that it is like a big supermarket: we can find something in nature that supports our ideas and we can probably find also the opposite example. In this context of beehive we should be always aware about putting our ideas into the animal. We do not understand it.

Is it better to become a beekeeper for the staff or is it better to ask a beekeeper from neighborhood? The author would recommend after long years of beekeeping to find somebody for supervising the activity, because it is also highly practical and it is impossible to learn it from books. However, the rest should be on the group of interested people because it is exactly the therapeutic advantage to learn together.

38 Stanislav Komárek 2008 p.126

There is one thing to discuss about The Golden Company (section 3.4.3). It is a social firm but it cannot earn so much money from honey to employ some beekeepers. As was already cited³⁹ to be a commercial beekeeper one should care about 200-300 hives. This is a really serious job especially in a city where one cannot come with a big car and care about everything because of perfect equipment. The conclusion is: it is nearly impossible to have a working social firm if we have the income only from this activity. Much better model is some community of interested people. To enjoy the joy.

There is one suggestion for the rest houses which has to be discussed. There exist not only the vertical hives which are heavy to handle but there is also one horizontal possibility which allows the older people to have bees. This alternative is called the honey cow and can be used for beekeeping with some kind of disability. It is a box where all the frames are next to each other. Horizontal hives which are derived from this very easy type of hive are more used with success e.g. in Hungary. It is very strange that not many beekeepers use it (1% in the Czech Republic)⁴⁰. It can be very well used especially in places where there are old people or disabled ones⁴¹.

The thesis probably did not mention all existing projects which include beekeeping. Nevertheless, there are not many publications dealing with this subject and available through libraries, online databases as well as popular web search engines. The cause can be the local nature of beekeeping journals in many countries because of language limitations – they are supposed to be a medium to keep the local beekeepers informed about the things which are interesting to them: bee infections around them, advertisement, beekeeping technologies and improvements. These should be available in the language of the nation for which it is intended. Therefore, it is not surprising that it is complicated to search the literature. To date, probably no other publications

39 Veselý 2003, p. 121

40 Jan Havelka, *Včelařství* 5/2011.

41 Zdeněk Kulháněk 2012.

about the subject have been published but some new ones⁴² are expected. Hope this document will be one of them and others will also appear in near future.

42 Gerti Zitzelsberger 2015

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