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# Appendix E - Transcribed & Coded Interviews

## E.1 - Interviews with Experts on Flood Management

### A. Aleksander Pashuku, Head of Bërdicë Administrative Unit

**Interviewee:** Aleksander Pashuku, Head of Bërdicë Administrative Unit (local residents were also present)

**Interview Date:** 8 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Arbana

**Location:** Head of Administrative Unit's Office

**Purpose:** To learn more about flood management and experiences from a group of locals

**Do we have permission to audio record this interview?**

Yes

#### Overview of Administration

- Bërdicë is made of 6 villages. There are 2300 hectares of land, 10000 inhabitants, and 2400 families.
- It is geographically located by the Drini and Buna rivers. Located 2 km from the joint of rivers, we were the first ones affected by the flood phenomenon in 2010.
- When the flood happened there were 1000 houses effected. 1/6 of the village that is positioned higher was not affected by the flood.
- There were 1800 hectares of land underwater.
- In total, there are 650 farms that exist here. They live off their land and livestock, all of which were affected by floods
- We created a team for emergencies like this, called the emergency unit. It consists of village leaders and part of the administrative unit.
- After the floods, we identified each family's damages. When supplies came from the government they were distributed by need. We have maps displayed to show the level of floods.

#### What did you learn from the 2010 flood?

- People don't know how to swim which is problematic when it floods. We have learned what precautions to take against a natural phenomenon. This information was handed down from older generations that know what to do.
- There were public hearings between the government, local authorities, and organizations. Some people suggest creating dams to save people and the economy.

- Farmers have suffered flood damage to fields and animals. 10-15 animals drown in floodwaters.
- Some people have made their houses so the first floor is not lived in. It acts like a basement.
- If someone is given a warning or piece of news information, they share it. This helps to prevent loss of life.
- They welcome solidarity by welcoming families dislocated to stay with them in Bërdicë, 1-2 months even.
- Pre-2010 floods came from nature, after 2010 floods was due to bad management by the state. This is because of them opening dams because they were fuller than the quota. We wrote to experts of dams for advice. There were lots of losses in the economy because of wasted materials.

#### What are other precautions that can be done at higher levels of government?

- There are other alternatives to dams. Higher levels suggest removing all villages near water and relocate to higher levels. Back in communist time, they were not allowed to build there. The overthrow of systems happened and they went back to where they lived before. This plan to relocate was not implemented.
- The deepening of the river was also brought up as an alternative. Essentially Big Basin but this never happened. 1970 was one of the last times they deepened the lake. In 2011/12 they dredged the lake/river. It was expensive and not done well.
- Another option was to adjust (raise/ reinforce) embankments along the river. Because the river is shared with Montenegro, both must work together.

#### Have you ever been refunded for flooding damages?

- Regarding the 2010/11 flood the government has refunded, while in recent flood they did not compensate.
- In 2010/11, part of the government was down here and was present all the time. But in 2017 they didn't take any measures to compensate.

#### Why?

- Farmer: (stressed) He had his business for 20 years before the floods. He had 50 animals lost and 32 hectares of his land was ruined.
- In 2010, residents were not prepared but were compensated 50%. In the 2015/17 floods, he did not get any compensation for losses. He said, "Even if I live the same life again I would not be able to get back what I lost."

#### How are floods monitored?

- With a quota of 1500 cubic meters for the dam, they can face floods quietly. If there is a release of this amount of water, they can manage. In 2010, 3 times this amount was released and they could not manage it.
- Their houses were not in the low lands but it still affected their farms even though their houses were at a high level.

#### How are they warned?

- The warnings should happen before the floods come but they don't. When it happened in 2010 no one knew happened because it happened at night. This happens because of the Cascades of the Drini River.
- When the government releases the dam gates, it's because they want to earn money since the rushing water creates money.
- When it's supposed to flood from rainfall it doesn't happen, they have taken enough precautions.

#### **Who's in charge of decision making?**

- For floods there are public hearings and meetings to come up with different alternatives. They never found solutions because there is a lack of willingness.
- There is a lack of law enforcement which leads to corrupt illegal construction.
- Feasibility studies have been conducted and they shouldn't allow people to build where is going to be flooded.
- Waste that is washed through that blocks the flow of the river. This is a problem when the tide rises.
- The main problem is that nothing is being done because the alternatives of experts are not considered.

#### **How many houses were built before the regime?**

- From 1992-2010, there was a high number of construction in flood areas. After 2010, after floods, people tried not to build in these areas. People just quit building.
- There is a village by the Buna shore where the houses were abandoned. They knew that in this area there would be floods.
- Over 79 years there would be floods in low lands but the mapping was over a very small surface.

#### **Do people believe these maps?**

- Yes, they were exact even during the communist time. In one area in Dajç, there was a village that was flooded even at that time. The entire village was able to relocate. Recently, people build wherever they want but the government has caused the growing flood area.
- Only in recent years has the flooding area grown. This is due to negligence of the government. The nominated administrative staff and experts are replaced often.

## B. Alminda Mema, CEO of the Aarhus Center in Shkodër

**Interviewee:** Alminda Mema, CEO of Aarhus Center

**Interview Date:** 5 November 2019

**Interviewers:** Madison Perry and Bella Speer

**Translator:** Farmir

**Location:** Arbana's Office, Shkodër

**Purpose:** To collect more information about flooding events and residents' actions and awareness.

**Do we have permission to audio record this interview?**

Yes

**What is your area of expertise? Specifically, what does Aarhus do?**

- I am a representative of Aarhus center in Shkodër, which is an environmental NGO. We work on the reduction and effects of catastrophic events.
- My role is to organize meetings with different locals to create an action plan for an awareness campaign for natural disasters. I speak to farmers, students, women, health centers, and teachers and educators. The health centers are a safe space for women to talk openly and they trust us. We meet 2-3 times per woman. There are 22 schools in this campaign, where we speak to both students and educators. There are 8 regions in total. We deal with floods, fires, and earthquakes.
- GIZ also works with us on awareness campaigns but only for floods.
- Our objective is to help communities themselves reduce the impact of floods. We work with the community to meet people in regions and demonstrate what they can do to reduce the impacts of floods. We actually go into the villages impacted by floods.

**What do you talk about during these conversations?**

- These are people that experience the floods, so it is very personal. We use their experience to demonstrate risk and help them understand the problem so they could better manage it.

**Manage how?**

- We want them to have a plan - similar to the flood risk management plan.
- We also want them to take information about floods seriously. If they don't then there is no time to react. If they do there is time to respond.
- We teach them how to have furniture, livestock, and house ready for floods.
  - Close doors and shutters with additional materials
  - Put sand around the house
  - Turn off gas, electric, water when leaving
  - Don't cut trees and vegetation along the river because it causes erosion
  - Do not throw trash in the river
  - Increase drainage channels maintenance

- There are 3 drainage channels. They are currently not open because they are polluted, so they are not effective.

#### **How do you share all this information with people?**

- We meet with them one-on-one in a very personal setting, such as health centers, bars, cafes, etc.
- We have prepared a guide for a flood that talks about what to do before, during, and after flooding events.
- Wastewater also damaging during floods.

#### **Based on your experience, what do you think we should put on our postcards? Specifically, what do you think would inspire action?**

- You should have strong images with information. Examples are pictures of a mother with a child with water, destroyed houses, dead livestock.
- Maybe use two images, to show the situation if we don't have floods and when there is a flood. There are many pictures from when the entire city flooded
- Negative images are more important to see to get the message.

#### **Have you seen changes over your time working in this area?**

- Yes, changes are being made. People are more aware of the importance of being informed. They want to get information and take measures to change their houses. For example, people no longer live on the first floor, now it is for animals.
- Changes to the drainage channel: There used to be a project about the drainage channels. People were employed to clean them. They have learned and they now maintain the channels more.
- More schools talk about floods and flood risk. I think the fact that schools speak about it and realize that an information session in flood risk reduction each year, at each generation, is important. This influence helps the younger generation to be prepared to take measures themselves in order to reduce the risk or the impact.

#### **Where did you grow up?**

- I was born in Shkodër. I know the situation and I have lived through floods.

#### **How is growing up in Albania today different than when you were a child?**

- There are more floods and they are stronger. There were big floods in 2010, 2011, 2016, and 2017. It affected people different in different regions.

#### **Part of our project is collecting personal stories about climate change. Can you describe an instance where you noticed climate change directly affecting your everyday life?**

- In 2010 all 8 regions were impacted by flooding. No one died during floods but houses, land, and businesses had damage.

## C. Arben Gjuraj, Deputy Mayor of Shkodër

**Interviewee:** Deputy Mayor of Shkodër

**Interview Date:** 5 November 2019

**Interviewers:** Mark Bray and Kayla Legatt

**Translator:** Arbana

**Location:** Arbana's Office, Shkodër

**Purpose:** To collect more information about flooding events and residents' actions and awareness.

**Do we have permission to audio record this interview?**

Yes

**What is your area of expertise?**

- I am the Deputy Mayor of Shkodër

**What are your duties as the Deputy Mayor?**

- Before starting my recent position, I have been for 15 years the mayor of the Dajç community; an area mostly flooded throughout these years, but with the territorial reform. I thought being deputy mayor would be a very useful experience.
- Along with the normal responsibilities, I do activities that deal with rural development and agriculture, environmental management, point of view of water management, protection of fire rescue, and civil emergencies in general. Civil emergencies include being faced with risks of different emergencies, created by flooding, earthquakes, and landslides, and the blocking of the ways from the snow. Earthquakes and flooding are the more concerning issues in Shkodër. There have been more floods during recent years and earthquakes are once in a while. It is essential that structures and people face these issues. Issues have been intensified because of the frequency of floods and earthquakes, pushed by the reaction of climate change.

**How has the increasing frequency of flooding changed throughout your life?**

- Before I was born (1963) in Dajç, there was a flood evaluated later as a flood that can only happen 100 years, but in 2010 another one of those floods happened. Nevertheless, in 2011 another flood happened. Scientists who work in the institute, have a more exact calculation. When we changed the system from a central system into another system, where people started doing whatever they like, this caused an overthrow of the system. It was open for everyone who wanted to open a business after the flooding. Changes were impacted by human activity as they ruined the environment and natural resources which is one of the causes of the flooding phenomenon. Attention to flooding increased because it was also on the economic side.

- Climate change is present and also cause of the interregional phenomenon and causes are felt all over. Besides territorial characteristics, it is important to take into consideration the metrics. Due to the position in the region, about 30,000km squared, a lot of sources of water comes from out of the territory. There is a use for hydropower stations, but when they are not managed or an influx of flow, they can create the impact of flooding in a lot of areas.
- The biggest damages are the environmental damages and they cannot even be evaluated as a whole. We had floods before but not of this high level and the cost of one place damaged affects somewhere else.

**How long have you been working in this area?**

- I have been working for 15 years.

**When did people associate these events with climate change or development that was happening?**

- In general, people have information and they have the power to know, but what has changed is the relation. Before the 90s the local structures and central structures were held responsible like state relation over the properties and everything belonged to the state before the 90s. Just volunteering from the community side. After the 90s the relation changed and no one felt responsible and all the existing system to face the emergencies or face the impacts of the floods were faced without attention and the responding capacities of the people were not in level.
- Post-communism period, enough phenomena took place so people became aware, generated experience to know what happened and how to respond. Empathy from the politics to respond to the needs. Political responsibilities to plan for an emergency, but lack of financial, responsibilities not distributed, and lack of human resources. Communities have been suffering for many years and we have done a lot and the communities now have to do the preparation as we should have shared awareness. Water resources are how we produce power.
- Flooding led to depopulation of the areas. Not only in areas that risk flooding but also the mountain areas for other things such as fires. A huge dynamic of events that have happened.

**Have you observed any specific adaptations people have made to combat flooding?**

- In general, the most responses have come from the citizens. There is a flood, so they take measures. Buildings have been elevated to the level that the flood happened, it is inherited. The principle of construction was respected.
- Also farm precautions for animals or stock. People plant vegetation that resists floods or grow agricultural products at higher levels. Farmers do a rotation of plants that can endure that much water. Floods are late fall and winter time and beginning of spring. They grow outside of this timing when it is over. They do not grow during that time. They are now used to flooding so lessons learned. Everything they have done is due to their own initiative.

**When they are not planting how are they getting food to eat?**



- Other sources to get food. Immigration is one resource in the area. Regarding food safety Albanian farms do not ensure the foods themselves.

#### When is the planting season?

- It is during fall and spring. Like now it is the wheat season to plant, in the spring they plant corn, and other vegetation. A big part of the territory is just for the meadows, so people also have livestock there. Farmers have changed their activities to also have decorative plants.
- It is most important that communities know of territory and phenomenon. Also decision-makers should pay more attention to these territories. Nothing can be done spontaneously without it being secured. Structures are too slow in decision making. Now in a dilemma, because they cannot execute, they do not delegate. Decision-makers should be open to locals and to take the measures to frame themselves in personal interests.

#### For flood warnings, what can people do so they are not impacted as much?

- They are evaluated based on municipality evacuation plans, so people now know where they will be evaluated. It is important that they feel they can rely on the info they have, but this does not always happen. Heavy rains are vague and they do not know what level, but there is a plan. We do not work a lot with prevention and we need to do more prevention it is important because when these happen they have heavy impacts on everything. Because none of this is part of insurance policies and it is a big risk for insurance companies and people in insurance companies are not competent enough

## D. Bujane Topalli, Professor of Psychology & Social Worker

**Interviewee:** Professor Bujane Topalli, PhD

**Interview date:** 16 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Farmir

**Location:** University of Shkodër, Shkodër, Albania

**Purpose:** To learn about the psychological impacts of flood events on residents in Shkodër, Albania

**Do we have permission to audio record this interview?**

Yes

**What is your name? Where have you lived most of your life? And what is your occupation?**

- My name is Professor Bujane. I have been working for 7 years teaching at the University of Shkodër, and at the same time, I work as a social worker. And I know the zone that you are interested in very well because the NGO that I am working with is situated in Ana e Malit so we have some services that offer to people there and we have worked with this target group that you are interested in knowing more about.

**What's the name of the NGO?**

- The Door Albania. They have a social business there that is based on an eco-social farm. And we try to offer social services and help for families in need.

**What are your concerns about the mental impacts of climate change?**

- The people that live in Ana e Malit, most of them are going away because year after year the floods happen and this is a big problem. If someone has a farm or a business in the village, they do not have much security that can continue their investment because it's always the same situation. You invest something, the floods happen and all your investment is lost. So most of them are really disappointed and go away and choose emigration. The number of emigrants in Albania is very high, we've always known this....
- Also most of the people have a problem with the state because they have not been refunded for the damages so they are a little disappointed with the government about this.

**What can be done at the regional level to keep people from not leaving?**

- Maybe a special state program... I am referring to you are from America and you have a problem with the organ [laugh]... and you have the state that it help the people so to create a strategy to be more near of the people to know the protection the state give of people. This is the first step... after maybe the social services because there isn't a lot of information about the

social effects that follow flooding. For many people, the losses they feel aren't only physical, but spiritual, so psychological support is needed.

#### How does the reimbursement program work?

- There are professionals in the district that go in the territory when it happens the flooding and do a kind of inventory and based on this report they decide which will be the amount that they need to refund these people. But I think it's after this point it doesn't function; maybe they do part of the refunding or they don't do it. And also the repetition of the flooding, it's a big problem. Maybe some engineering projects with technical analysis; if the climate has changed, maybe new infrastructure.

#### How do people deal with the psychological impacts of flooding?

- We have a positive thing...we are very open to support each other. When the state is not present, we have a family, we have the concept of large families so you can go to your cousin to stay for one month, two months [laugh] till the situation goes to the normality and this is maybe the best support the family of these zones have had till now. The support of the culture that we have.

#### Are there any psychological impacts of flooding?

- I think yes, I am not informed of any research in this field, but I know that flooding has psychological effects... For example, children that have lost something during the flooding...the books, the children that come in media say "I lost all my homework," these are little things but for a child it's very important because it is their life that is going away with the flooding but also for women and also people that have lost their business, it is a big trauma...

#### How do people see flooding events? As something to be avoided or something to be allowed to happen because it takes place every year?

- It is a little bit difficult... because the problem of flooding is not just in the village it is also in the city. You have those that are flooded and indifferent people... they think it is their problem, not us... I think that most of people year after year because it happens that told that the climate has changed so the situation will be repeated. When it happened the first time, they think that maybe it is the state that do this, they don't manage very well the situation of the dam. But now they tell them it is the change of the climate so they have thought different solutions that I said. They start to think I move from here, my house, I don't live more here I go in another part.

#### What can be done to further bridge the gap in dealing with flooding between local people and the government?

- ... The media have done a great job because I really didn't know the problem in the village. I saw on the media, they have played a really important role and I think maybe they are a good partner to monitor the situation and to say the truth because some of the difficulties of

flooding have been informed by the media not by these group of people that was commanded by the government... Social media was also important because we saw... we can help with money, they do social raise funding for the NGO. The information helps us to do this connection that in reality we didn't have.

**You mentioned that people are able to send money to help. Is it the NGOs that help the people?**

- I remember the first flooding, it was the municipality of Shkodër that do an open invitation to the NGOs to help... the people in the flooding zone was moved, there wasn't a big danger, they were in the building that was temporary for that... You can help with clothes or food, so private way. We contribute especially to do social activity for the children because they have this trauma because they have moved from the house... they need to know why I am here, why I am not in school, what I need to do. It is really a big confusion, but in organizing this way, each NGO give their help in the way they have possibility.

**When you talk about media, was it just the TV platforms or was it others like Facebook or other websites?**

- Yes it was more, especially for the young indifferent people. The older people like my father, they know from before... the people that were older have sensibilization but the younger no so the social media... and the photo... for sensibilization they give information and also to sensibilize most of the people.

**What platforms are most popular?**

- Facebook

**Did you grow up in Shkodër?**

- Yes, I grew up in Shkodër and I really was impressed when I saw the first flooding that it come just near the city center. I heard from old times that the flooding had come to the city center but I hadn't believe before... because people come with boats. At first it was funny, but when you see that people lost a lot and in Albania in Shkodër, people are really poor, they need a lot of years to create all the things they have lost so it's not a big funny.

**At the regional level, are there actions that can be taken to either help people adapt to floods or reduce the psychological impacts?**

- I think they have done this... they have people from the party go to all the people that have been affected by the flooding but you know our situation of politics is like... I think that in general people are really tired of this situation. That you are happy that this happens because you earn something about this. And sometimes you talk about the good intentions of this group of representatives from this party that come but they do formally these things. And also they give help to people, different party that give help so it was not all the government. But always it's this situation that someone wants to earn from the situation so this is really tiring

the people so they don't believe. They go in the meeting but really they are not psychological support. All thinks what can I earn about this.

**E. Pëllumb Dani, Head of Emergency Services in Shkodër and Felek Kasemi,  
Secretary-General of the Prefecture in Shkodër**

**Interviewee:** Pëllumb Dani, Head of Emergencies and Felek Kasemi, Secretary General of the Prefecture

**Interview date:** 7 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Arbana

**Location:** Emergency Services Office, Shkodër, Albania

**Purpose:** To learn about flood risk management and preparedness in Shkodër, Albania

**Do we have permission to audio record this interview?**

Yes

This interview was conducted with 2 individuals, and their individual answers are denoted as such.

**What is your name? Where have you lived most of your life? And what is your occupation?**

- Pëllumb: My name is Pëllumb and I am the Head of Emergency Services in Shkodër for floods and other emergencies. I am excited to meet with you. This work is a sensitive sector throughout the world. I was a professor myself in the army. I graduated from army school in 1982, served in the military for 10 years, then in the special police forces for 5 years, and I have been in this position since 1994. Shkodër is a territory full of traditions. There are 5 municipalities and the center of the biggest is in Shkodër. The most common natural phenomena include floods, firebreaks, landslides, and snow blocks. The most sensitive part of Shkodër are the lowlands. Between the hydropower stations which are all built on the Drin river, the Buna river, Shkodër lake, there are lots of bodies of water going into the lowland. Meanwhile 60% of Shkodër is also mountainous.
- Felek: My name is Felek and I am the Secretary General of the Prefecture in Shkodër. I run the flow of administrative work at the prefecture level and I was born in Shkodër and I have lived here my whole life. Along with my other assignments, I am a member of the emergency committee. I have worked in this job for 6 years. As for my educational experience, I have a background in the natural sciences, in biology and chemistry.

**What was it like growing up in Shkodër? What activities did you do? How has that changed over time?**

- Plumb: I have always played sports, especially at the military school. I have always liked being outside, both back then and also now in my professional life. It keeps me energetic and fresh to face work despite the challenges.
- Felek: I was a runner on the school teams and I swam in championships arranged by schools in they city.

#### **What changes in the environment have you noticed from the time you were growing up?**

- Plumb: Until the 90s, we knew the seasons very well like when it is raining, snowing... there was a separation of seasons. But now the ratio of the seasons is broken due to internal factors like human activity and external factors like climate change and global warming, massive flooding, melting of ice blocks. Also the changing of the riverbeds, burned forests, illegal cutting of trees, constructed in places without access, and pollution. We are working to fix the damage done. The balance of natural phenomena is broken.

#### **Have you ever personally been impacted by floods in Shkodër, what did you do to reduce impact?**

- Plumb: I covered the situation of flooding in 2010. It was the first big one... 10,000 hectares of land in water, 5600 houses in or under water, 15000 citizens evacuated and we needed an emergency plan for the evacuation of people. It was critical to save the lives of animals and people and to provide food and medical support to those affected by flooding.
- There was also the Kosovo crisis in 1998 when families came to Albania, to Shkodër. We had to manage accommodation and lodging for 51,000 people. The Shkodër territory is a paradox because within a 25 km distance, you can enjoy all the natural beauties of the world. The lakes, the mountains within a one and a half hour drive. In this beautiful area, we also suffer all these problems so we have to be well organized to manage this situation in the right place in the right time.
- Felek: The biggest flood I remember is the 2010 flood. My house and my family's house was flooded. The first floor was 75 cm full of water. In 2010, the water came almost to the center of the city. The suburban area was also flooded and there was immeasurable damages.

#### **What are some adaptations that local people use to reduce the impact of flooding on their lives?**

- Plumb: In 2010, I met with the director of the World Bank, she wanted to be accompanied by me and be taken to Arbot where there were reports that the water was 4 meters in some places. I told her the level of water had decreased but she wanted to see what the situation was like.

She also needed to go back to Tirana at 6pm for a government meeting. When we went to Arbot, we noticed the humidity in vegetation and trees and houses still isolated by water. The inhabitants of that area still transported food, medical supplies etc from Dajç unit. The director meet with the people, asked what they were doing. They were transporting food and medical supplies. She asked why they did not leave because the area was meant for planting not living. She said that houses should be on the side of the mountain. They do not want to leave, they were told to live by the side of the mountain, they have lived their whole lives in the area, 1.5m above surface of land. The people are stubborn people. In their houses, one floor is always empty and used as a warehouse. They have at least two boats where normally people have two bicycles. They know what to do in these situations, the people are used to it and take their own measures. The repetition of floods has served as a training for them, like where to evacuate. For me, that does not mean we neglect. We have to deal with situation, there are many projects implemented with foreign agencies training the people in these areas on how to act in case of flooding to create conditions to mitigate because they do not want to leave.

#### Can you describe how warnings are distributed?

- With the central structures, we have the institute of meteorology that deals with forecasting. We get notification from this institute and we give instructions to agency of civil protection under the ministry of defense which coordinates further steps. We get weather forecast every 24 hours like with they expect rainfall. Our head office notifies municipalities and we coordinate with the hydropower stations so that they don't have discharges at the wrong time.



## F. Raymond Hofer, BRIGAIID Project Innovator

**Interviewee:** Raymond Hofer - BoxBarrier BRIGAIID

**Interview Date:** 31 October 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** Skype

**Purpose:** To collect more information about the interviewee's BRIGAIID project

**Do we have permission to audio record this interview?**

Yes

**What was your motivation for being involved in the BoxBarrier project?**

- BoxBarrier is a worldwide product (made 6 years ago) developed by one of the largest construction companies in Europe.
- Made for waterboards in the Netherlands, but it was too small scale for the company. So I bought it by myself and an associate to file a patent.

**What is your area of expertise?**

- I used to be a Professional baseball player.
- I have a logistical company on the side. I am an entrepreneur involved in lots of small businesses.

**What changes have you observed over your time working in this area?**

- Temporary fixes, like BoxBarrier, but people are still thinking old school like sandbags. People aren't adapting to the idea that sandbags don't work. Lower cost products and better rainfall predictions will lead to better adaptations. People need to invest in products that make a difference

**Where is BoxBarrier testing the project in Albania? Specific neighborhoods?**

- I do not know yet. Our first big step was the BRIGAIID fair and we are looking for a pilot project in Albania and mostly looking at big cities. At the government levels as that is who is paying for it.

**Are there any barriers you can foresee in trying to introduce BoxBarriers in Albania?**

- The only product I am doing in Albania is BoxBarrier.
- It is the safest and cheapest product available and has been used effectively in the Netherlands

**Do you think BoxBarrier good for Albania?**

- Yes because it can be a cheap temporary fix to be used by government

G. Sebastiano Carrer, BRIGAIID Project Innovator

**Interviewee:** Sebastiano Carrer- Toolkit Method BRIGAIID

**Interview Date:** 31 October 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** Skype

**Purpose:** To collect more information about BRIGAIID project

**Do we have permission to audio record this interview?**

Yes

**Can you explain a little bit more about the Toolkit Method and how it works?**

- It is a plugin tool that helps in planning flood defense strategies in urban areas. It includes a digital model of the area with buildings and drainage systems. It is a solution for defending specific areas. We are developing preliminary cost estimates for the design structure.

**Can you see this method being implemented in a more rural setting? How?**

- I believe it could be used in any setting.

**What was your motivation for being involved in the Toolkit project? And your background?**

- I am the head of an environmental business and an Engineer that has a Ph.D. in environmental studies.

**Have you decided on any specific neighborhoods in Albania this device should go? How do you think it will be implemented in Albania?**

- I want to talk to the administration for details first. The Toolkit is free, but we sell services with it. Our other clients are private, organizations and dealing with the same problems

**How will you convince people of the importance of using this method and the value in it?**

- Its value is that you have the ability to discuss in advance possible solutions at a low cost, and it is easy to share the solutions with its simple design.

**What is necessary to implement the solutions?**

- It is necessary to use traditional design tools.

## E.2 - Interviews with Residents in Ana e Malit

### A. Ana e Malit Resident 1

**Interviewee:** Ana e Malit Resident 1

**Interview Date:** 7 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Arbana

**Location:** Ana e Malit

**Purpose:** To collect more information about flooding from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**Can you give us some background information about yourself?**

- I have been the Leader of the Community for 16 years. I am 70 years old.

**Where have you lived most of your life?**

- I have lived in Old Port. This village is very prosperous from natural resources and I would not ask for anything in the world besides no floods.
- I grow walnuts and I can also grow fruits.

**Have you or anyone you know ever had a flood in your house?**

- It never used to get flooded; now there are floods every year. There have been changes to the Buna River. There are dams in Lasia, Jader, and Dajç. When the dams are released water goes into the neighboring villages causing floods.

**What happens during floods?**

- The road is 80 cm above the ground and the water level was just under the windows.
- I helped to distribute bread and the flow of the water was so strong it overturned my boat, I am lucky to be alive.
- The family head for each family stays behind and guards the house. Everyone else, including all my family, evacuated to the Village of Peace or dorms. Helicopters came and distributed food (bread) and water free of charge. There was also support from other businesses.

**What was the army's involvement during floods?**

- The army was present and helped with the use of boats. If the army was not here to help the whole village would have drowned.

**Besides food what else can be provided?**

- Medical support. A doctor was there because he was a Shkodër Citizen. He spent nights here to help.

- Many people were only compensated for the 2010/11 floods; after that there was no monetary compensation.
  - I have received two compensation for the 2010 flood damage to my household materials and the other was for agricultural materials
- Compensation was organized by municipality. But they still could not compensate losses.

#### **Why is there no longer compensation?**

- A state of emergency was not declared. By law anytime there is a declared emergency the government is obliged to provide compensation for damage.

#### **How do they go back to normal life?**

- It's very difficult since they have to start over again. This is because of the damage to their houses (mold) and damage to their fields from the increased humidity level. Damage from floods cause pillars of houses to get damaged, and life in general is ruined.

#### **What would help people affected by flooding?**

- Asking for funding from the World Bank to help Albania deepen and clean the Drini River
- Create a deviation for when dams are open.
- Covered fields (like a greenhouses) to enable the passing of rainwater into smaller channels so the soil isn't as soaked. These small channels transport water to a bigger channel which goes through tubes underground to the Buna River.

#### **How are schools affected?**

- The school is abandoned. In Ana e Malit there are only 15 complete families, the rest are elders.

## B. Ana e Malit Resident 2

**Interviewee:** Head of the Administrative Unit for Ana e Malit

**Interview Date:** 7 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, Bella Speer

**Translator:** Arbana

**Location:** Office of the Head of the Administrative Unit

**Purpose:** To collect more information about flooding from someone who has local and expert perspectives

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life? Can you give us a little background on your life?**

- I am 47 years old, and I am married with 2 daughters. I am a native of Ana e Malit, my family has lived here since 300-400 years ago.
- I graduated from Tirana University in Economics.

**What have you done for a living?**

- I have been working in public administration since 2006. Before I worked in Economics. I was an inspector for many years, then I was mayor of my community. I was the mayor in 2011 when the floods happened.
- Now I am head of the administrative unit for Ana e Malit.

**What types of outdoor activities/sports did you do as a child?**

- When I was younger I played football. The schools had sports classes (PE) which was lucky. When I was a teen in high school I was registered in football clubs (local teams).

**How is growing up in Albania today different than when you were a child?**

- I was 18 years old when the overthrow of systems happened (end of communism). During my childhood I lived in the communist time and when I share this with children they find it hard to believe.
- My community was isolated even though we were in the countryside there were still areas they could and couldn't go in. There were strict areas we couldn't go in. There was surveillance by government officials.

**What is your favorite activity to do outside? Or what activity do you spend the most time doing while outside?**

- I still play football. Once a week I go to play with friends. Sometimes I also play basketball, or I ride a bike. My wife and I jog also when we have time.

- I encourage my family to be part of nature and sports also. Especially because they are part of a school that offers these activities.

**Have you noticed any changes surrounding this activity over time?**

- Yes, there has been a rehabilitation of beaches and stadiums.

**What parts of your life are most affected by weather?**

- When I am out jogging I am affected. And biking I like but not when the weather is bad.

**What changes have you observed with the weather?**

- We have a good climate in general. In fact, there had been changes in the weather. Now the seasons are mixed up; Fall used to be fall, and in winter there was snow. Recently in October we were swimming in the sea which we never did before.

**Do you know anyone affected by floods in this area?**

- Sure, many people have been affected and they have also had trauma. Most of the time they felt like this place is no longer worth living here.
- Many land surfaces are not in use. In March 2018 it rained for 40 days and the government has not taken measures to take care of it and compensate the people whose land was ruined. All the arable lands were underwater that year.

**What did people do to adapt to that amount of water? What actions did they take to adapt to floods?**

- People are stressed by this, they desire to not live here. Obot village is the most problematic. Before 2010 they were not prepared. After they have been flooded every year.
- They have come up with adaptations, like building new houses or adding floors to elevate the bottom floor. Sometimes the first floor is empty and they live off the second floor.

**Can you describe traumas caused by flooding?**

- Usually, they do not get flooded by the amount of rain. They get flooded because of the release of water from the Drini River. There are 3 hydropower stations on the river.
- We created groups with the leaders of the villages to make a list of sick (handicapped) and elderly and an inventory of the animals.
- But people still need to be noticed and given a warning that this will happen. When they are notified before they are ready to evacuate.

**Who do you get the warnings from? Where does it go from you?**

- At this level, we get a warning from the municipality, and they get the warning from higher, the general corporation of power production, which is associated with the government. Sometimes there is a misunderstanding because of different government backgrounds.
- If we are lucky we get the warning one day before. Once we get the warning the working group is set up because they share responsibilities. We start to evacuate the children, the sick, and the elderly. Almost every family has boats to evacuate the animals. Usually the animals drown.

- In 2011 people were not prepared and people didn't want to leave homes, they were stubborn. Now people are more aware, more prepared, and they are able to understand that people's lives are more important than their homes. In the families one family member stays home just in case of robbery.
- We use the army, who is always present, and cars and boats help to evacuate. During the 2010-11 floods, the evacuation was run by force because they would not leave.
- When we evacuate people, we bring them to a mountain village, the Village of Peace. It is run by current Albania shelter providers. The municipality has begun to make its own measures. For example, they use the dorms or highschools. When there is flooding the schools are also interrupted. Some people use their own home to welcome their neighbors.
- During the 2018 floods, there were 1.5 to 2 meters of water. Compared to 2011, which had 2.5 meters of water.

#### **How does political background play a role in general warning?**

- Flooding is a phenomenon that has no political colors.
- Southern Albania also has heavy floods. The water flow from Drini is smooth compared to southern. Because of the smooth flow they are "favored" and given less time to react.

#### **On the individual level is there anything they can do to reduce impacts of flooding?**

- There is a cross border agreement with Montenegro called the "agreement of the lake" when the lake reached its quota of water level. Since 1956 they've had it signed because they should not let lake reached the level. If it does there is no escape
- They should store food and products like food for animals (hay) in upper levels.
- Some of them have also moved from where they lived and bought land elsewhere (on a hill) or moved into Shkodër.
- There are no children in Ana e Malit, only elderly live here. The school here is closed because of low attendance. Only 15 students attended school in Obot before.
- Some institutional measures that can be taken are asphaltting the roads and maintaining the channels. In some places, nothing can be done because the level of land is below sea level.
- Some people think the government should create a deviation of the river. This would cost 80 million euros. This money was mentioned as a big investment but they do not have money to fund it. This is partially due to bad management of funds.

## E.3 - Interviews with Residents in Bërdicë

### A. Bërdicë Resident 1

**Interviewee:** Bërdicë 1

**Interview date:** November 6 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Farmir

**Location:** On the porch of Mr. Pertruche's unfinished home in Bërdicë, Shkodër, Albania

**Purpose:** To hear about the flood experiences and adaptations of a Bërdicë resident

**Do we have permission to audio record this interview?**

Yes

**What is your name? Where have you lived most of your life? And what is your occupation?**

- My name is Tim Pertruche. I am a construction material truck driver & lifelong Bërdicë resident.

**What types of outdoor activities/sports did you do as a child? Could you tell us a story about a specific activity? How is growing up in Albania today different than when you were a child?**

- **When I was younger, I used to play football.** Nothing special really happened, but growing up now is different than when I was young. The elders who raised us when I was a child would sometimes kick us and I couldn't go outside of the village because during the communist time, you had to ask permission from the government. Now, children have their own private space and they can go into the city. Now when I go outside of my home, in my free time, I usually get a drink after work. My financial situation is not good enough to travel or do more than go out for drinks.

**Have you or anyone you know ever had a flood in your house?**

- Because of floods, my personal life has not been affected. The water level doesn't get as high as my house. **I felt bad for people in Dajç because they had higher floods and more damage.** Their furniture and food for their animals was damaged. They are also poor on Dajç.
- I have not experienced any big floods at my house. I haven't done anything because it is manageable. **Other people, they are building higher houses, raising the food for their animals; the flood in 2010 was the highest. The local administrative unit** knew to come to my house during the flood because **people** were staying here.

**How did you monitor the rain?**



- By TV, and by looking at people traveling by boat. Also by ourselves, we would travel by bike to see what's going on. In 2010, I would send food from Shkodër to Dajç in my truck. The water was 1 meter high and the wheels of my truck were underwater.

#### After the water went back to normal, how did people go back to their lives?

- With many problems and difficulties. They had to clean all walls from dirt and mold, take out all the furniture to dry, spread out the food they kept for animals to dry like corn and hay. During this time, the emergency service after the flood, they were still providing food. Both government and private organizations like the Red Cross helped, even though they didn't substitute everything. The flood was originally caused by the bad management of the river by the government. If the river continues to rain for 20 days, there will be floods again. The management of the dams should be better to predict water levels.

#### How many days did it take for people to move back in?

- Immediately after the water was gone.

#### For people that lost their farms, what did they do?

- The flood was in December, the flood was in January, March or April there was not a lot of work to do anyway. Until March, they just cleaned their house.

#### Do you have any suggestions for people in Dajç?

- There is nothing they can do to prevent the floods. The people in the villages are not able to do anything.

#### The embankments along the river are meant to help protect the land from flooding. Why do people destroy it?

- People by themselves damage the embankments by putting vegetation around it. They created more risk for themselves, but the soil is good. The government should help them find better places for land. The embankments are made from sand and soil, it's a long path along the river since they can't be concrete. When planting vegetation, the embankment lowers. The soil is good because of the water closeby.

#### Has the local government tried anything to prevent people from damaging the embankments?

- Nothing happens to the people that do this. The government structure should address this problem. People know that planting near the river damage the embankment, but they think it won't happen this time. It is like when drivers take short cuts; it easier, more production.

## B. Bërdicë Resident 2

**Interviewee:** Bërdicë 2

**Interview date:** November 8 2019

**Interviewers:** Madison Perry, and Bella Speer

**Translator:** Arbana

**Location:** Interviewee's dairy farm in Bërdicë, Shkodër, Albania

**Purpose:** To hear about the flood experiences and adaptations of a Bërdicë resident

**Do we have permission to audio record this interview?**

Yes

**What is your name? Where have you lived most of your life? And what is your occupation?**

- I am 61 years old and I have lived here all my life. I live a few meters from my farm and I live at an elevated level. The Drini doesn't really flood here.
- I have 40 cows. It was a huge investment because each cow cost 1900 euros. I have had various occupations, but I am currently a dairy farmer.

**Have you or anyone you know ever had a flood in your house?**

- For the moment, I don't feel at risk of floods because I have invested. I am now on legal documentation and I follow all hygienic protocol. I have 32 hectares of land and if there was more water, I would be at risk.
- According to recent floods, I am in good condition. I have used gravel to elevate my farm and filled it in with grout.

**Have you received compensation for floods that happen in this area?**

- Yes, in 2010 but it was not enough. I lost thousands of euros of my investment in 2010, but got only 3000 euros for my losses. In 2010, the land was underwater for months. The fields were flooded.
- During the floods in the 60s, the floods were managed much better. Channels were cleaned and there were primary and secondary channels. During the communist time, cleaning and maintaining channels was a law. Now there is a drainage board in the government structure but they only come here 1-2 days and they are not locals. The government puts people in the drainage boards and there is no way local people can be part of it. The farmers' contribution is only to pay for the land; the farmer can do anything, they just have to pay the tax on the land. I don't know who the drainage board members are. I have 4 tractors that I use for my farm, but I have to buy gas for the same price as the regular cars so there are no regulations to support farmers.

### **Do you and your neighbors do anything to help each other when there are floods?**

- The situation is the same for everyone. Everyone tries to save themselves. Where do I take my cows? I can't take all of them at once. There is no place to turn to complain.

### **How long did it take to recover?**

- 5 years is still not done. I had taken out loans applied to every regular to rebuild my agricultural industry. Before the 2010 flood, I bought land and 20 cows and built a small complex. After the 2010 flood, the cows died.
- So I went to Greece to work. I harvested fruit like apples and peaches on the seaside. Then I took out a loan and started again.
- It flooded again in spring 2013, and all my food supplies were destroyed. I had two options, stay and continue with little hope or go abroad to the US or Germany and leave everything. I also went to the director of agriculture to ask for a low-rate loan but was denied. After 2010, there was a company that brought them concentrated food for animals called OxFam.

### **If you leave, what would happen to your farm?**

- The flooding is making people leave Albania. If I left everything, there would be left with no surveillance. I would sell the cows, but no one would take care of them because they would face the same challenges. I use a generator for everything like milking the cows because I don't have enough power and I have done a lot to make sure everything works.

### **Who do you sell your milk to?**

- I sell to a guy from Tirana who used to work at the chamber of commerce. He makes creamer. I also sell to another guy from Serbia.

### **If you knew a big flood was coming, what steps would you take?**

- I have 3 floors so we are safe on the 2nd and 3rd floors. The damages would mostly affect my farm and barn.

### **Who helps you with your business?**

- My sister-in-law, my brother, and I employ some other people. They have not had much work. I have an automated milker and a lot of dairy products. 11 people live off this.

### **Why doesn't the government give you loans since it's in their interest?**

- I asked for 1 million lek to prepare a document package to start another stable but they said no.

## C. Bërdicë Resident 3

**Interviewee:** Bërdicë Local 3

**Interview Date:** 8 November 2019

**Interviewers:** Mark Bray and Kayla Legatt

**Translator:** Gasper

**Location:** Bërdicë

**Purpose:** To collect more information about flooding from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I am the sister in law of the Dairy Farmer.
- I have lived in Dajç until I got married and then I moved to Bërdicë. People move here to have a better profit than in other places.
- I like living here, I just wished I could have more help. I know how things work in the states vs. here. There is too much labor work and not enough automated

**What have you done for a living?**

- I have always worked for family businesses. My husband has worked with cows since he was a kid. I have a pension \$100 a month, this is not liveable.

**What changes have you made to reduce the impacts of flooding in the home?**

- Our basement is newly built, it was not very high, and the roof parts are all new. 2010 and 2013 were the big floods so renovations were in 2015.

**Has anything else changed since the other flooding?**

- I had not heard about flooding before 2010. There is more soil and rocks here now. Concrete levels of embankments are new so it doesn't get flooded (to protect the products).

**How do you help animals during flooding?**

- Cows and babies were transported by army trucks. The army took them up to the top of the mountain during the flooding. We have 30 cows and they keep the best ones and others have to be sold for meat production.

**When the flooding occurs what is damaged when they come back?**

- All the wiring was ruined and supplies were gone. Other things are rusty from the water level. We needed to restart from zero.

**How do you receive warnings of flooding?**

- From the television and other farmers.

- I do not want to remember much of that time. We are way more stressed and are not at the economic or mental level than we were before the floods. We have to work and work so we can get to where we were 20 years before. It takes 10 years to recover economically from flooding.

**Besides loans how do people restart their lives?**

- People give up their job and try to make a living in another way.

## E.4 - Interviews with Residents in Dajç

### A. Dajç Resident 1

**Interviewee:** Dajç Local 1

**Interview Date:** 5 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Farmir

**Location:** In the yard of the interviewee, Dajç, Shkodër

**Purpose:** To collect more information about floods from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I have lived in Shkodër all my life.

**What have you done for a living?**

- I have worked in civil construction as a labor man for the last 15 years.
- I built my house and it took 10 years.

**What types of outdoor activities/sports did you do as a child?**

- When I was young I played football in my neighborhood.

**Could you tell us a story about a specific activity?**

- I broke my right leg when I was 14. It was painful at the time but funny now. A friend that used to live in Dajç helped to set and mend my leg. There was not a professional doctor but they were trusted by the community.

**How is growing up in Albania today different than when you were a child?**

- Children are raised differently now. There is different food, clothes, and types of games. There is more phone usage.

**What is your favorite activity to do outside? Or what activity do you spend the most time doing while outside?**

- I go out to meet my brothers and relatives from the village to drink (Raki).

**Have you noticed any changes surrounding this activity over time?**

- Now we don't meet as much since people stay with their close family.

**What parts of your life are most affected by weather? How so?**

- Floods cause psychological stress, children can drown, electrical wires become very dangerous. It also affects my home.

**Have you or anyone you know ever had a flood in your house?**

- We have been asked to evacuate 3 times. The water reached the top of the cement block (60-70cm or 2ft).
- The government used to send us to stay at a hotel or we would stay with a relative.
- We don't take anything because we were provided with clothes and medicine by the government. We take a boat to evacuate.

**What changes have you personally made when flooding happens in your house?**

- I go to the old remains of a church to check the Buna River water level. I check the week before predicted heavy rains to prepare. I put furniture and clothes up. I check every day during autumn and winter.

**What changes still need to be made to reduce the impacts of flooding?**

- Adding support and structure to embankments around channels needs to happen. The supports would be made from concrete and big stones.

**Based on your past experiences with flooding is there any actions you now do differently?**

- Because of the 2015 flood, I moved my family next door and elevated the house that I built. I started construction before floods but before 2014 I only had foundations built.

## B. Dajç Resident 2

**Interviewee:** Dajç Resident 2

**Interview Date:** 5 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Farmir

**Location:** The front porch of the interviewee, Dajç, Shkodër

**Purpose:** To collect more information about flooding from a local's perspective.

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I was born here and lived here my whole life. I am 63 years old.

**What have you done for a living?**

- Outside of the house, I just take care of the yard, the plants, and the fruit trees I have.

**What types of outdoor activities/sports did you do as a child?**

- When I was young I just used to play football with friends.

**What parts of your life are most affected by weather?**

- The floods affected my psychology and economic condition. Looking at the water coming and people being in danger and not being able to do something to help. It's shocking and causes me a bad feeling. It also damaged the plaster on my property, my furniture, my car, and the electrical system in my house. When my animals passed away from the floods, we had to dig holes underground to bury them.

**Have you or anyone you know ever had a flood in your house?**

- In 2010 there was a big flood and everyone left the house and but I was the only one that stayed in case someone might steal my property, the rest of my family evacuated.
- We were not informed before the flood so we couldn't do anything before or during we just had to leave the house.
- When there were floods we would travel by small boat to transport sandbags and food. These are the same boats used to evacuate people.

**Based on your past experiences with flooding is there any actions you now do differently?**

- Before I used to know people and I would remember them. When I saw on the television that the child of someone in Tirana had died it would give me shivers.
- Now I don't recognize or know people that much. It's the new way of living; everyone is doing his own thing and you don't know the others so much. I used to remember and know everyone and have felt for everything, now my memory is not as good as it used to be.

**Why don't you go to schools in the village to discuss flooding?**

- The school doesn't teach lessons regularly and properly anymore. They teach students but it isn't taken very seriously.



- Others will take this as me being a bother, am being cocky, or am making trouble.
- When TV stations were here during floods I spoke to them about floods. My son asked why I spoke on TV since it's seen as against the people they know. I am not sure whether talking about it is the right thing to do.

## C. Dajç Resident 3

**Interviewee:** Gjivalin Darragjati, Head of the Administrative Unit in Dajç

**Interview Date:** 6 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** Farmir

**Location:** Bar-Hotel “Luani A”

**Purpose:** To collect more information about flooding from someone who has local and expert perspectives

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I have been living in Dajç all my life; I am still living there.

**What have you done for a living?**

- I have been working for 11 years in the Administrative Unit in Dajç. I have had three jobs, first I worked as an inspector, then I worked in the administrative unit, and now I am Head of the Unit.

**What types of outdoor activities/sports did you do as a child?**

- I played football outside when I was young.

**How is growing up in Albania today different than when you were a child?**

- There are differences between children now to how it was I was born.
- There was no hospital where I am from.
- Now there are more transportation opportunities, and more access to information. There were no phones when I was younger.

**What is your favorite activity to do outside? Or what activity do you spend the most time doing while outside?**

- I spend time outside with my children so they can play.
- The time I spend outside is generally to provide for my family and make sure my kids have a good life.

**Have you noticed any changes surrounding this activity over time?**

- Time changes and activities change...

**What parts of your life are most affected by weather?**

- Because I am on the Administrative Unit, I have a responsibility to manage floods.
- They impact my life because I have a responsibility to warn people of the floods.

### How so?

- I coordinate flooding responsibility. During emergency situations, there are governmental emergency units that have farming support. I have to coordinate where the main problem is, and where to send everybody. For example, I have to coordinate where to send firefighters, police, EMS, army, and food supplies.
- I also have to go to the flooding area each time.

### How is the warning distributed?

- First I go and inform the main man of the village (the old man of the area). I tell the old man of each village who tells everyone else.
- Thanks to support GIZ gave to Shkodër, they can check the flooding in the area. They know based on how much water comes out of the dam what areas will be flooded.

### What is the extent of expected damage based on the level of the dam?

- 18km from here there is the hydropower dam. It is one of the biggest, 297 meters tall.

### From the time a warning is sent from weather monitoring stations to when people evacuate, can you talk about the people involved in the distribution of warnings?

- It starts with the civil emergencies directory office, then they tell the police and ambulance, who goes house by house. They give them the information of the system to inform people, but sometimes people refuse to evacuate because they are concerned for farm animals.
- People have jobs to specifically inform areas.

### Have you or anyone you know ever had a flood in your house?

- Yes, I have had flooding in my own home.
- There are 12,200 houses in Dajç administrative unit, from 2000 have had flooding.

### What changes have you personally made when flooding happens in your house?

- Water destroyed my whole house and what I had inside.
- After the flood went away, it was not safe to live inside because the walls had water. Our clothes got wet when floods occur.
- I had to destroy my house and rebuild it. My new house was built higher, from 50 cm to 150cm off the ground. (1.5m)

### How many villages are there in Dajç?

- There are 11 villages.

### What changes still need to be made to reduce the impact of flooding?

- Based on my education--MBA, courses on flood management and life experience--there are a lot of factors.
- Streams from the mountains bring too much sediment which fills the hydropower plant. This decreases capacity and forces the dam to be released when it rains too much.

- Because many people take material (dirt, small rocks) from the path of the river in an uncontrolled way, this changes the river path and causes erosion.
- 35 years ago, you could sail on the Buna River. It could be used for trade and transportation centuries ago, but due to changes in the path, you can no longer sail from the river to the sea.

**Can you describe something meaningful to you in your environment or community, or in the place where you grew up, that has changed due to floods?**

- Water is not drinkable due to floods; it is polluted. People used to take water from a well 30-35m deep to get fresh water. After 2010 the water is dangerous because it is mixed with trash and sediment.
- There is economic damage, everything they had invested here, it was all lost in floods.

**What are some ways to prevent damages?**

- People have started to raise their houses.
- Animal coops and food for animals are raised as well.
- This is not affordable for all individuals.

## E.5 - Interviews with Experts on Heat Wave Management

A. Edlira Martiri, Associate Professor at the University of Tirana

**Interviewee:** Dr. Edlira Martiri- QoAir BRIGAD

**Interview Date:** 30 October 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** Friend's cafe

**Purpose:** To collect more information about heat waves from an expert's perspective and about BRIGAD project

**Do we have permission to audio record this interview?**

Yes

Clarification before interview: I am a computer scientist so she does not believe I will have the stories we are looking for. She just read an article about a project and figured why not do something about heat waves. Not exactly connected to climate change, also pollution in cars, crowded city, and a lot of buildings being built very close together.

**What is your area of expertise?**

- I am a computer science (5 yr degree), and masters, PhD, information systems, data protection, information security. I am part of the IT community in Tirana and we are very close.
- I did full-time research in Norway for a while, where my task was to develop secure algorithms for things like fingerprints.
- I have written many papers, and participated in many events.

**How long have you been working in this area?**

- Less than 10 years

**What was your motivation for being involved in the QoAir project?**

- It was something I read about on the internet. I like to solve problems in all the fields, so I saw this as a manageable climate project so decided to be there to do something. It is a new technology and it can serve the whole community.

**Have you implemented the sensors yet?**

- The project was submitted but did not get the funding so they could not even experiment the project yet. The project has worked on a small testing platform on Blockchain.

**If the system is meant to raise awareness of heat waves, do you think this is a huge problem in Tirana?**

- People are not aware of the fact that if the temperatures are high they should not go out like they usually do. If they do go out they should not wear the clothing they normally do.

- This causes health problems for older people especially. Hospitals now get awareness ahead before the heat waves come so they can prepare.
- It would be useful if each point has a sensor, so news could be delivered publically, and so people would enable people to know if it is safe.

#### On hot days, how do people find out about the high temperature?

- People check temperatures on their phones. In our case, using a sensor you can check what the real temperature is.
- The main square is hotter than the rest of the city so sensors would allow you to know that it is not a good idea to walk through the center.
  - “To my experience, if I have to go from one point to the city to the other point of the city, and I know I have to go through the city center. During these days, I totally do not do it. Because, if you pass through the city center, the main square, it is impossible to cross it because it is quite hot; it is very hot. There is no shadow, and it is a very large area. And also it is the heat that comes from the pavement, from the way that it is constructed.”
- I have two kids by the way, two daughters they are 11 and 6 almost 7, and also I am worried about them. Every time I have to go out, I also have to think about them. If we don't take the car and we have to walk. We always try to walk through places which we know that are trees or shadow and we know are a little bit fresh in the summer even though we try not to walk through the city center.

#### What other adaptation have people made?

- My friends do the same as me.
- People do not walk through areas that are right in the sun. They try to stay inside during those days.

#### Is there a time when you wanted to go somewhere but it was too hot?

- When going somewhere during the hot days we would plan to go by the sea, and sites that are full of tourists in the winter because they are full of snow.

#### Where did you grow up in Albania?

- I was born in Shkodër. During the winter almost every year there was snow, now it never snows there.
- I've only seen snow in Tirana once.
- My family went to Norway and it snowed a lot so when they came back to Tirana we were sad that there was no snow in Tirana only in the mountains far away. We saw some small flakes of snow and my children were very excited, but it is no longer the same as it used to be because it never snows.

- It is now foggy most days and it is no longer clear like it used to be in Tirana when I was growing up.

**What do people who are less affluent do when it is hot?**

- People who live in villages around the city work in their villages. They have no choice and it must be hard because they still have to take care of the farms and they have to be outside.
- It is easy to tell who is from where because when they visit the city they have red faces from being sunburnt. This shows a low level of awareness.

**If people knew of dangers would they take precautions?**

- Maybe yes maybe not because it is also related to the culture. Climate change gradually came so people didn't realize the real danger such as polluted air.
- People first need a better understanding and they could have a better understanding and do something. Buildings may be the main reason the air does not go away and due to population density because there are so many people and buildings in the same place it causes problems.
- There are some initiatives, but they do not seem to work. Things like proper traffic management would be good. I walk to work and everywhere.
- Bike lanes do not improve traffic because the streets are narrow, so car traffic is getting worse by adding bike lanes. Bike lanes are painted with a chemical that is bad for people's health. The chemical has a strong smell and when painted the hard chemical smell ran throughout the area. Still, more people are trying to take their bike places.

**Is the way we are planning to share cards sound effective?**

- I believe it needs to be taken in baby steps but something should still be done.

**What happens to people when politicians tell them to do something about a situation?**

- Maybe individually but sometimes not at all. Some will do something if someone calls them on it.

## B. Joni Margjeka, Urban Planner in Tirana

**Interviewee:** Joni Margjeka, Urban Planner

**Interview date:** 31 October 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** Friends Bookhouse Cafe in Tirana, Albania

**Purpose:** To learn about heat wave mitigation and adaptation in Tirana, Albania

**Permission Statement:**

**Do we have permission to audio record this interview?**

Yes

**What is your name? Where have you lived most of your life? And what is your occupation?**

- My name is Joni Margjeka. I graduated as an urban planner 2 years ago and now I work in the field. I draft general plans. I was born in Tirana and grew up here. **It's a big city that developed very fast, but there was a lack of planning during this time because the need to build was so big that people just kept building.** They thought building would be important. **Now, there are not a lot of public spaces or green spaces. This is important for the community because a lot of people must go in surroundings of the city for nature.**
- There were 3 main periods of development. There was the Ottoman era, then communism in the city like collective buildings, and the political transition. Because of the fall, **people built without plans. Now everywhere is built so there are no places for schools, public spaces, etc. It's too hot in the summer. The surface of the concrete is too much because there are no green spaces.** Some people have adapted their buildings and houses because a lot of the buildings in Albania are old buildings. Sometimes, they do things to keep the hot air not to come in [pause]; it's depressing to even talk about this. **People build in an informal way. For example, if you need to build a house you just build and then they make it formal and make it legal, never with a plan.** It's very different from how it is done in the U.S.A.
- This was all due to the fall of communism. Houses were too small in communism era so that is why people build so much now. Government was too weak to stop development.

**Within urban planning, what do you think is best to improve it?**



- Drafting a general plan. Look into the Tirana 2030 plan. Planning the city where there is still free space. It's political what is included in the plan; there is an orbital forest and they plan to build a green belt for Tirana city. There will be a new boulevard that connects Skanderbeg Square to river of Tirana. Small interventions are taking place from locals. For example, people have green roofs to work with the hot air and are using alternative energy.

**As an urban planner, you talk about working with city planners to plan the city, do you do any work with making people aware?**

- I have not done any work with that. I work with a private studio that makes general local plans. The plan of Tirana was drafted from the Municipality of Tirana. The draft involved a lot of politics and recommendations from the local government. There was no direct communication with locals and I think this is a problem.

**Why don't local officials work to make people aware?**

- Things in Albania do not work like other developed countries. There are 2 problems: corruption and lack of professionalism in government and there are not qualified people to do the right things. For example, I am an urban planner but I am forced to work for a private company rather than the state.

**Why aren't qualified people appointed?**

- Because of corruption, nepotism

**Are climate policies considered in the urban planning process?**

- Climate policies are quite inexistant in Albania. The government is not aware at all and the people too. So if the government doesn't write the right policies, the people will never know what to do or how to act.

**In your job do you observe adaptations people make to heat waves?**

- There are hidden gems in Tirana like fresh water, rivers, lakes. These things do not exist in the city but in the surroundings of Tirana; Tirana citizens leave the city to be part of the nature. Tirana citizens go outside of City to refresh in the summer and to be part of the nature because this things is not existing in the city. There are just some parks, small little parks, in the city and nothing else.

**What are the names of some of the hidden gems?**

- The rivers that flow south of Tirana, some canyons and waterfalls, eye of the cyclops. I can give you a list in the coming days.

**What are changes that you have seen in how kids play now versus when you were younger?**

- It is better now. When I was young, we played outside with a ball; it was not a developed country. Now it is more developed because there are playgrounds and sports fields. For example, children joke and run around the artificial lake. Sometimes you see things differently

than when you are growing up. Durres is 40 minutes from Tirana so you can drive to the sea and have fun there. People swim in the rivers or lakes.

**What about people who have to go to work?**

- Some streets are built new and there's not trees so it gets very hot!

**What are some changes people have made to their homes?**

- Only people that have private spaces like a house can do this activity. If you live in an apartment, you cannot do anything.

**What about places of business?**

- There are a lot of cafes so people spend a lot of time in cafes to feel cool. There are some private swimming pools, but no public.

**How should people be made most aware of heatwaves?**

- Older people should be most aware because they are the most exposed. Also children. The information should be part of the education system in schools. People just feel the sunny days are hot, they don't think more about it. The middle of the day is too hot, but the evenings are cool.

## C. Klea Troka, Doctor-in-Training

**Interviewee:** Klea Troka

**Interview date:** 27 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** None; Interview was conducted via email correspondence

**Purpose:** To learn about heat wave mitigation and adaptation in Tirana, Albania

**What is your area of expertise? How long have you been working in this area?**

- I graduated this July from the University of Medicine, Tirana with a degree in General Medicine. I will get my license to work as a general practitioner this December.

**How do hospitals prepare for prolonged increased temperature events such as heat waves? (extra supplies or staff)?**

- The main hospital in Albania is the hospital/university center Mother Theresa (QSUT). We are lacking a lot of staff and medical supplies in the regional hospitals and this is the reason why QSUT is overloaded with patients on daily bases. This is to say that the hospital is used to have a large number of patients every day. In my personal knowledge no specific pre-planned strategy is done for prolonged increased temperatures events.

**What advisories are sent out to warn the public and what do they look like?**

- This is something done by the Public Health Institute in Albania. Most of the work during prolonged increased temperatures events is awareness campaign. All the information is delivered through Newsrooms in the main public/private TV channels, and during specific shows were representatives from the Public Health Institute and ER Doctors are invited to talk.

**What does the information consist of?**

1. Who are the risk target group
2. How do these increased temperatures impact those with chronic illnesses?
3. What should they do to protect themselves (do not go out during peak times, what temperature should you keep your house, wear sun hats and what type of clothing is appropriate to wear, hydrate yourself, do not forget your medications, know the symptoms of heat cramps, heat stroke)

**On very hot days, what do you do to cool off? How has your experience with heat waves changed over time (for example, from the time you were a child)?**

- Personally a lot of hydration, I do not go out during peak temperature hours, and usually during hot days I go to a village close to the beach where the temperatures are not so high and

you have more cooling air. I think that every next summer we experience here is hotter than the one before.

**How do other people in Tirana do on very hot days? What do people who have to be outside for their work do to cool off? What about people without air conditioners?**

- Keeping in mind the background context of the situation here, the fact is that not a lot of people are able to afford paying for air conditioners. What people try to do:

1. Find shades to spent some time there to cool off

2. Wear hats

3. Drink water

4. Dress lightly

5. People keep their windows open, and some who live in flats might also keep their doors open

6. Fans are more affordable than air-conditioning

**How has the city tried to reduce the impact of heat waves (on local people's lives, businesses, etc)?**

- Do not really have any information to answer this one. Short one and the more realistic one would be that they have not done anything effective.

**What needs to be done to further reduce the impact of heat waves in Tirana? What are some challenges to doing this?**

- This is my personal opinion. Not based on any scientific evidence or proper knowledge of mine. Here is what I think:
- Increase the number of green spaces and number of trees around the city. Reduce concrete (Skanderbeg Square for example is impossible to walk there during summer days.)
- Find ways to lower the traffic, to motivate people to use alternative ways of traveling)

**D. Nensi Mehmeti Lalaj, Project Manager - BRIGAD**

**Interviewee:** Nensi Mehmeti Lalaj

**Interview date:** 1 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** BRIGAD Office & via Skype

**Purpose:** To learn about more about climate impact mitigation and adaptation in Albania

Pertaining to our project, there was no information gained from this interview. The interviewee instead introduced us to contacts that provided us with relevant information.

## E. Resul Resulaj, Director of the Grand Park of Tirana

**Interviewee:** Resul Resulaj, Director of the Grand Park of Tirana

**Interview Date:** 22 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, Bella Speer

**Translator:** None

**Location:** None; Interview was conducted via email correspondence

**Purpose:** To learn about heat wave adaptations made by Tirana residents and the use of the park

**What is your area of expertise? How long have you been working in this area?**

- My name is Resul Resulaj and I have been working with the Agency of Parks and Recreation in the Communication Sector for about a year. After my graduation as a Student of Excellence in Tirana University, I have about 3 years of experience in the Communication Sector and a total of 5 years in the public administration.

**On very hot days, what do you do to cool off? How has your experience with heat waves (very hot days) changed over time (for example, from the time you were a child)?**

- Personally on hot days I prefer to consume water, to stay in the shade, to stay in the air conditioning and to rest in the mountainous areas. But it is a fact that in recent years the heat waves have been increased. Even for Albania, this is a known phenomenon of seasonal disruptions and climate instability.

**What do other people in Tirana do on very hot days? What do people who have to be outside for their work do to cool off? What about people without air conditioners?**

- Citizens prefer to go to the beach during hot days because Tirana is only 30 km from the coast. Another part of the citizens prefer to stay in the shade and visit the big park or other small parks in the city. Some citizens who do not have air conditioning choose to stay in the shade, but cases of hypothermia are rare in Tirana.

**How do people use the artificial lake and the surrounding park on very hot days? Do you have any data on how many people use the park/ lake each month of the year? How has this changed over time?**

- The Great Park during the summer season is very popular especially in the afternoons. In other parts of the year the park is frequented mainly during the weekend. The Great Park is frequented by 10,000 people a day.

**How has the city tried to reduce the impact of heat waves (on local people's lives, businesses, etc)?**

- Parks, tree plantings, swimming pools, electric taxis etc.

**What needs to be done to further reduce the impact of heat waves in Tirana? What are some challenges to doing this?**

- Projects for a green city with 0 emissions in nature.

## F. Xhemal Mato, First Environmentalist in Tirana

**Interviewee:** Xhemal Mato- First Environmentalist in Tirana

**Interview Date:** 29 October 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** Xhemal Mato's office

**Purpose:** To collect more information about heat waves from an expert's perspective.

**Do we have permission to audio record this interview?**

Yes

**What is your area of expertise?**

- I have done projects climate change like how we can rise information and climate awareness for leaders, politicians, schools. It is a real impact in Albania.
- Projects on climate change to increase the environmental awareness of climate change leaders, politicians, campaigns, film of why, what's happening, real impacts.
- Ecocinema - show film in different areas, discussion, not implemented yet but has been written and created and submitted to EU.
- Have to convince people of the real impact there is
- There are different things happening in Albania in different environment and areas causing consequences

**What was people's reactions to the film?**

- They are shocked that it is real and the level of extreme and people in hospital
- Rivers that have no more water because of climate change
- I believe telling it in film allows you to hear it more because politicians, people in office cannot see what is happening in rural areas and people understand, feel, have fear through films
- Most important thing of climate change: people are not convinced are not warned, same with politicians and they need to be able to feel it and see the reality

**Have you observed adaptations people have made? Response to climate change?**

- What does the donkey do when it rains... he lets it rains
- Simple people, no they are not prepared
- They see it in agriculture because they see we need to change and plant and they are learning after they suffer, instead of preparing for it to come
- There are efficient roofs, developing slow
- It is an economical and ecological investment and Albania is not supported to do this work

- I have not seen any implementation linked with climate change
- Agriculture is suffering the most- storms come and crops are ruined and needs more support from politicians

#### What do people usually do during really hot days in Tirana?

- Let it be hot and during a big storm people cannot really do anything, and they do not know what to do
- Ex: If people are warned about water irrigation 2 days before a storm, first must prepare hole for water then save water.
- Not prepared they see production go down, and they do not really understand why, some just decide to leave the country because of lack of production

#### Where you grew, and how it is different than today? What changes that you have seen in weather over time?

- Most identified is changes in rain
- Rain was more established was the whole mode of spring, rain is not in the same month, sometimes strong in July
- Seasons are not the same as before
- Extreme rain and temperature have not happened before.
- Changes in rain patterns... April then spring with flowers; now it's variable, comes in different months, might get a year's worth in 5 days, extreme rain and temperature have not been common in the past... older generations feel/witness this
- Underwater has changed drastically too
  - Corals and less fish all linked to climate change
  - Animals underwater are disappearing

#### Are there any native animals to Albania that used to be in Albania that are not here anymore?

- Ecosystem can be destroyed from people or climate change, so it's hard to tell if climate change has done anything in regards to ecosystem and specifically animals
  - Animals need the ecosystem to survive, if the ecosystem goes, animals go
  - People used to use dynamite to kill fish

#### Why climate change is not seen as an urgent issue?

- They are not warned or educated of it
- They see it as a problem for the future
- They do not like to spend money for the future, they need to use it now
- Climate change campaigns are used to win elections or positions
  - To spend money or time for the future is not suitable for the government
  - Phenomena is not for the "Albania government", but they are the ones that must resolve it



○ Ex: USA has polluted more than us, so they must pay- what politicians think

Any advice when speaking with interviewing wise & story-wise/that are emotional and make people want to do something?

- Farmer that is prepared would be better than a simple worker
- People that are a little intellectual will explain better how they suffer

## E.6 - Interviews with Residents from Stacioni i Trenit

### A. Stacioni i Trenit Resident 1

**Interviewee:** Shopkeeper in her 60s, Anonymous

**Interview Date:** 14 November 2019

**Interviewers:** Mark Bray and Madison Perry

**Translator:** Farmir

**Location:** In front of her shop, Rruga Fortuzi

**Purpose:** To collect more information about heat waves from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I have been living most of my life in Puka.
- I lived 25 years in Tirana

**What have you done for a living?**

- I sell second-hand clothes, I'm self-employed and own a small shop on Rruga Fortuzi

**How has the temperature/weather changed since you were a child?**

- When I was young, I herded animals, played games with self-made balls and did other village activities.
- The main difference with children now is kids used to go outside more but now kids play on phones and I think this isn't a good change.

**What activities do you spend the most time doing while outside?**

- When I'm outside I like to walk as a relaxing activity.

**Have you noticed any changes surrounding this activity over time?**

- There are less green areas now and it is more polluted in Tirana so I can't walk around like I used to.

**What parts of your life are most affected by weather? How so?**

- The weather affects my life during the time I move from home to work.
- During the autumn and winter, there is water. In the summer, there is dust.
- Weather affects whether people come to my shop.

**What changes have you observed?**

- The weather is less predictable, more mixed the winter and summer.
- There is more concrete and less trees. Here in Tirana and even in my home town.

**What health issues do people have related to heat waves?**

- People have pain in their bones.
- Dust affects people's breathing.
- Food is produced with more pesticides, so it is harder to find good food. It makes people sick.

**On hot days, what do you do to cool off?**

- I have no AC or fan, we just use shade to cool off.

**How has your experience with heat waves changed over time?**

- 25 years ago, the seasons were distinct. Now the summer is very long and hot.

**How do heat waves make it harder to care for children or the elderly?**

- The heat makes it harder for older people; they have to stay inside. Pension is very low so they'd otherwise have to work.

**Do you ever experience droughts or water shortages?**

- We have 3 hours of water in my house, and we have to use pumps. Water is available from 6 am to 1-2 pm, then there is no water until 7pm. After then there is low-pressure water.
- This has occurred all year since I moved here. The water is not for drinking, just cleaning and washing.

**What do you do with your shop when it is hot?**

- I close my shop in midday hours when it's very hot. It's too hot to stay inside and there are fewer people walking around so it's not worth it to stay open.

**How do you get information about heat waves?**

- I use my TV for temperature each day. They don't report on places to cool off.

## B. Stacioni i Trenit Resident 2

**Interviewee:** Stacioni i Trenit Resident 2

**Interview Date:** 15 November 2019

**Interviewers:** Mark Bray and Madison Perry

**Translator:** Farmir

**Location:** Bar-cafe on Rruga Reshit Petrela

**Purpose:** To collect more information about heat waves from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**Where have you lived most of your life?**

- I have lived in many places, but for most of my life I have lived in Tirana, in different parts of the city.

**What have you done for a living?**

- I have a small shop selling spare parts for cars.

**What types of outdoor activities/sports did you do as a child?**

- When I was a child I trained for basketball and I also ran.
- When was 12 I used to be very thin and very agile. I was playing basketball and another player picked me up and put me in the basket, like a ball.

**How is growing up in Albania today different than when you were a child?**

- When I was a child we had more freedom, there were many open areas to play. We could play on the street. Now children don't have this opportunity, they are forced to play on the computer.
- Before there were many fields close to my house that Merita, my daughter, could play on, now they are building apartment buildings in those spaces.

**What activities do you spend the most time doing while outside?**

- When I am out of the house is usually working, I like to keep moving.
- I start the day at 7 and finish work at 6. In the summer after dinner I go on walks with my wife.

**Have you noticed any changes surrounding this activity over time?**

- Before you could notice when it was winter and when it was summer, there was a big difference. Now the seasons are mixed.

**When did you first start to notice this change?**

- It started gradually about 15 years ago, it is becoming more evident over the years.
- The cars cause pollution and they cut the trees, and there is pollution from the factories.

**What parts of your life are most affected by weather?**

- The weather has changed but we have to adapt. I have no problems with the weather, but my problem now is that I don't know what to expect from the weather because it is unpredictable.

**On hot days, what do you do to cool off?**

- We have better conditions to cool off on hot days. We have air conditioning and we use water to cool.

**How has your experience with heat waves changed over time?**

- During the hot days, we try to avoid the sun and stay in the shadow.

**How do heat waves make it harder to care for children or the elderly?**

- When it's hot conditions, it makes it difficult to go out with children and old people. You have to be more mindful of where you go and you have less choices of where to go.

**Can you describe something meaningful to you in your environment or community, or in the place where you grew up, that has changed due to heat?**

- I haven't done anything related with heat, there is nothing I can do. The problem is there are less trees and there is only concrete everywhere, no trees or green areas.

**On a hot day, do you do anything differently in your daily routine to stay cool?**

- I only wear light clothes, there is not much you can do besides that.

**People without air conditioning, what do they do?**

- If they have no AC, they open windows and doors so air can move, and they try to stay in the shadow.

**Has the city tried to do anything to help people stay cool?**

- The city hasn't done anything to help with the heat problem.

**Is there anything you think should be done?**

- I think that they should provide increased opportunities to work so people can buy AC units themselves.

**How do you get weather information?**

- I get weather information from the television, the temperature. You can also find it on the internet but I use that less.

**On very hot days, are there warnings on TV about what you should do? What do they say?**

- There are warnings on the tv about hot days. They say that it will be very hot and to take extra care of children and older people. Make sure they don't go outside during the midday hours.

**How does the hot weather affect people's health?**

- The heat makes people feel very tired, and it is harder to breathe.

**Do people see the changing weather as a problem?**

- Yes, they see this as a problem. Many times people talk about how the winter isn't coming.
- Before it used to be icy in November, now only in late December and January you have cold days.

**What do people in the rest of the city think is the cause of this?**

- Others think the same as me, pollution and cutting trees is what is changing the weather.

**Knowing that, are there things people do to try to change that?**

- People don't have an opportunity to do anything, especially financially.
- Business pay tax money for education and the vegetation of the city, but no one sees these benefits. They don't plant a lot and not near my business.

**Merita (his daughter) told us to ask you about walking to work through the river when she was younger. Can you tell us about that?**

- When I used to live in an outside village, I would have to walk through a river to get to work. When I used to cross the river sometimes the water would be up to my chest.

**How has the level of the river changed over time?**

- There is no river anymore, just a stream. There is less water now, before it used to be a big river. It used to rain more before and there was more water, now there is less water.
- If someone in the village was sick and they needed to get to a hospital, we used to carry them across the river.
- The village before was a few people, 20 houses, so if people wanted to visit the city we had to carry them across the river.

## E.7 - Interviews with Residents from Allias

### A. Allias Resident 1

**Interviewee:** Tirana Local 2

**Interview Date:** 13 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** GES bar

**Purpose:** To collect more information about heat waves from a local's perspective.

**Do we have permission to audio record this interview?**

Yes

**What is your name and some background information on yourself?**

- My name is Ornest. I have a BS from the Agricultural University of Tirana.

**Where have you lived most of your life?**

- I was born and raised in Tirana but I have also lived in Italy.

**What have you done for a living?**

- I work for an Environmental NGO.

**How has the temperature/weather changed since you were a child?**

- The seasons are not the same, winter is only for a couple of months and then there is a long period of summer time. 100 years ago, it didn't snow in Tirana now there has been some snow.
- When it rains heavily the city floods.

**What activities do you spend the most time doing while outside?**

- I have to be outside to do sessions for work. I also enjoy walking, going to the gym, and getting coffee. I make sure to stay hydrated.

**On hot days, what do you do to cool off?**

- I stay indoors or in shaded places. I also drink as much water as possible. I use fans and air-conditioning if I have it.

**Do you check the weather?**

- I check every hour, my generation checks the weather. If you don't check the weather people might faint. For example older people know to stay hydrated from the media telling people to stay inside and drink as much water as they can. People trust the doctors on TV, if they have a TV. Older people stay inside between 12-3pm.

- I have a summer house near the beach but, during peak hours, the sun is so hot even with the sea you will faint because it is 40 degrees celsius. My grandparents used to be able to walk on the beach but not they can not.

#### **What do people without air conditioning do to stay cool?**

- They can close their windows for as long as they can, or keep doors open for ventilation, also they can get fans.

#### **How do hospitals deal with the increased number of people who faint, etc.?**

- Hospitals get full, sometimes they need extra doctors.

#### **Are there special things hospitals do to prepare themselves?**

- Giving advice on tv to prepare the people, and getting some extra equipment. Keeping mentality high is important.

#### **Anything the city officials have done to help?**

- Nope, no huge impact. There are certain areas that are cool, like the artificial lake in Tirana that is full of people.
- They encourage people to skip the heat and go to artificial lake.
- Do people swim in the lake? (no). It used to have fish and other activities with lake but not anymore. People used dynamite to fish so they destroyed the fish population, so now there are no more fish. Now it is just the forest part where people go to run.

#### **Is there anything that can further be done?**

- Skanderbeg Square used to have a fountain, now it's just a plain field. This is not helpful on sunny days. We need more water all around the city.
- The river that goes through Tirana is polluted. Only places remaining are the areas with more greenery around.

#### **How do heat waves make it harder to care for children or the elderly?**

- They move from outdoor to indoor activities.
- Parents need to keep everything in check, same as the elderly. They need to be hydrated and stay in the shade.

#### **How is growing up in Albania today different than when you were a child?**

- I used to hang out with friends and play football. Now, kids now play video games instead.

#### **Where do the children play now?**

- They just play video games now, sometimes they go to the fields to play football. There is not much they can do.

#### **Has the city done much to try and change this?**

- No, there are too many buildings all around and not enough free spots to play.
- People try to go to beaches during summertime, because concrete reflects heat, so they are trying to stay out of Tirana.



Do a lot of people know what climate change is?

- They know but they do not care. If they cared there would be more of a response from both the people and the government.

Do kids now learn about climate change?

- They learn a little but they should have actual lessons on climate change. The government is responsible for this because they choose the books that the children learn by.

How do people make their concerns to the government?

- They participate in protests.

Have city officials done anything to make people more aware on very hot days?

- Only the doctors try to give some tips/advice to the population. This comes from the media.

## B. Alias Resident 2

**Interviewee:** Tirana Local 3

**Interview Date:** 13 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** GES bar

**Purpose:** To collect more information about heat waves from a local's perspective

**Do we have permission to audio record this interview?**

Yes

**What is your name?**

- My name is Chris.

**Where have you lived most of your life?**

- I grew up in Tirana and was born in Fier.
- I lived 8 years in Italy because I was a student, I started in Italy but am finishing in Tirana with a BS in electrical engineering and MS.

**What have you done for a living?**

- I work as a waiter currently.

**How has the temperature/weather changed since you were a child?**

- I feel more hot air during the summer.
- If it is too hot, I go to my apartment in Southern Albania during summer vacation (with friends too).

**What activities do you spend the most time doing while outside?**

- Different things... before Italy, I played football or went out to a cafe/bar, ran/jogged, or read books.
- It was only a 10 min walk to a park while I was in college.

**On hot days, what do you do to cool off?**

- I go out, or stay home in air conditioning, depends on how hot it is.
- Since I do not have a job right now I have the flexibility to go anywhere like the beach.

**How do heat waves make it harder to care for children or the elderly? How do you stay cool?**

- I always hear stories about people that have suffered from the heat.
- It is important to hydrate, and drink a lot of water. I also go for a swim. I try to go out during the night since it is fresher.

**What do people do that do not have air conditioning?**

- Depends on the kind of person you are if you like to be in the sun and be hot then you stay. Some go to the beach, some to mountains, some for summer leave the country if they can or you can go to a swimming pool

**Describe something meaningful to you in your environment or community, or in the place where you grew up, that has changed due to heat/weather.**

- People face things differently from when I was a kid vs now, when I was a kid I did not have electronics like they do now; I played outside.
- The biggest impact in my life is the difference in how kids play, now they are attached to their screens.
- I went to the city in the south to be refreshed by swimming.
- I also had to study during the night and not during the day because it was too hot.

**How have you changed your daily activities due to the weather?**

- People tend to go outside later because at that time of the day it is colder.
- When I was 17-18 the sun was okay. But when I came back from Italy things had changed a lot in Tirana. In Italy, the summer was hotter than usual and people tended to go out later. People also shower more often.

**What can be done to prevent rising temperatures?**

- Do not to use fuel for cars instead use electric cars this will remove gas and causes less pollution. In 2040 there is a plan to change all cars that have fuel to electrical ones. The real problem is industrialization.

**How did you decide to study electrical engineering?**

- During high school I liked math. Electrical engineering is modern and is applied everywhere.

## E.8 - Interviews with Residents from Pazari i Ri

### A. Pazari i Ri Resident 1

**Interviewee:** Tirana Local 1

**Interview Date:** 13 November 2019

**Interviewers:** Mark Bray, Kayla Legatt, Madison Perry, and Bella Speer

**Translator:** None

**Location:** GES bar

**Purpose:** To collect more information about heat waves from a local's perspective.

**Do we have permission to audio record this interview?**

Yes

**What is your name?**

- Ruben

**Where have you lived most of your life?**

- I was born in Tirana.

**What have you done for a living?**

- I studied Visual Arts at the University of Tirana. I am now a trainer at the gym and private artist.

**How has the temperature/weather changed since you were a child?**

- There are lots of temperature variability, such as very hot days over a week or month in the last 5 years. The last 5 years are the years that have had more changes in Tirana.

**What activities do you spend the most time doing while outside?**

- When I am outside I am usually meeting friends or other people, also taking the buses.

**Have you noticed any changes surrounding this activity over time?**

- When meeting friends transportation has changed. When there are heavy rains the streets become flooded and cause traffic which prevents people from moving from place to place. In the summer, it gets so hot you can't be outside without protection.

**On hot days, what do you do to cool off?**

- I usually stay home with air condition, or I go to a bar with air conditioning. Sometimes I go to a place with fresh air for vacation.
- I try to stay informed, so I make investments to insulate the house so it is cool in the summer and warm in the winter.
- When there is something to do during the day you move it to later, so you lose time.

**How has your experience with heat waves changed over time?**

- There are not a lot of changes. Some buildings are getting insulated by air conditioning companies. I think the air-conditioning units are making the city view not as good.
- The mentality of people is different. They are careful to protect the community and family.

**How do heat waves make it harder to care for children or the elderly?**

- If it is hot people do not necessarily care for the protection. Most people do not care much about the heat or heavy rainfall. This is due to neglect.

**On hot days, you stay at home, what do other people in the city do?**

- Most like me, but some try to get cool in the water.

**What about people on the outside of the city?**

- This is different because there is more green area so it is more fresh.

**How does the hot weather impact businesses?**

- Their energy is affected because they need to spend a lot of energy for when there is heat or rain.

**Have city officials done anything to make people more aware on very hot days?**

- Only the doctors try to give some tips/advice to the population. They do this in the form of the media.