

An estimation of Ayutthaya the World Heritage and often flooded area's sightseeing value

Tetsuo MIZUTA, Postdoctoral researcher, Ritsumeikan University
Chaweewan DENPAIBOON, Satoshi OHTSUKI, Hidehiko KANEGAE
13th/Oct./2009 Kyoto

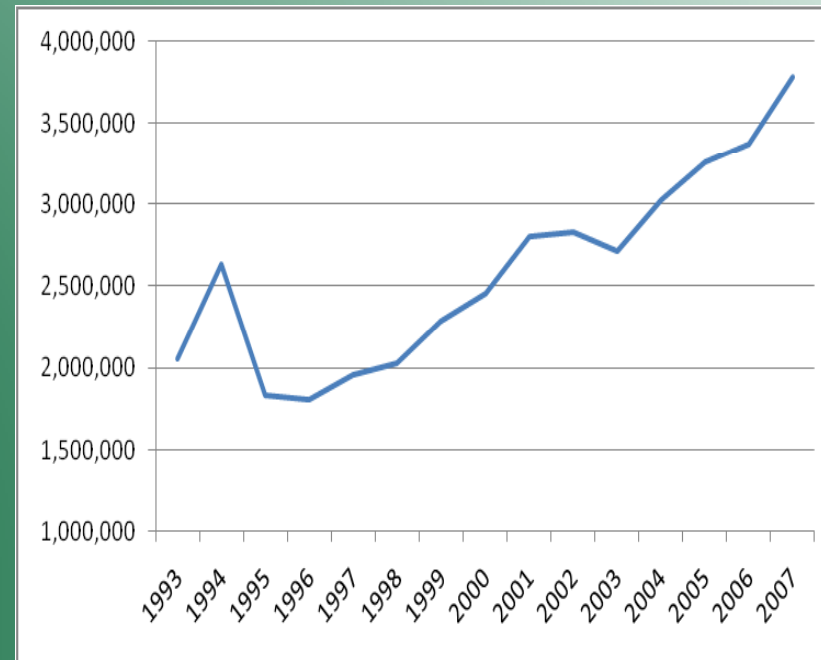
Outline of our study

- This study aims to clear World Heritage Site Ayutthaya's important problem i.e. relationship between flood and sightseeing.
- Since yr 1991's UNESCO designation, many tourists visited here. But, Ayutthaya is often flooded area. Negative effects attack not only local residents but also tourists.
- We estimated Ayutthaya's sightseeing value by using Contingent Valuation Method (CVM).

Where is Ayutthaya and how is Ayutthaya?



About 80km (50miles) north from Bangkok, and inner island surrounded Chao Phraya river



Number of visitors in Ayutthaya

Flood Disasters in the World Heritage of Ayutthaya

The historical monuments and their flood risk

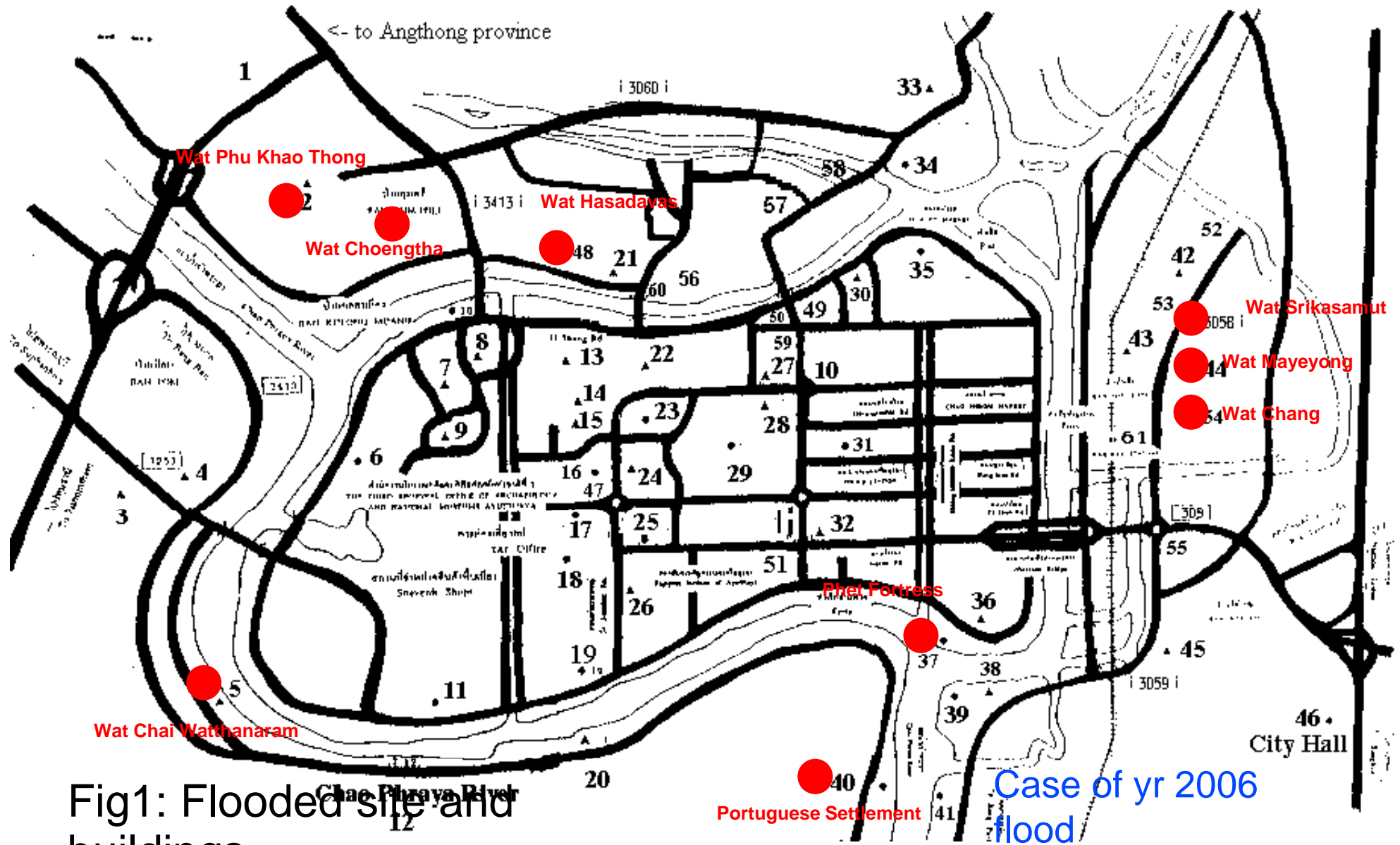


Fig1: Flooded site and buildings

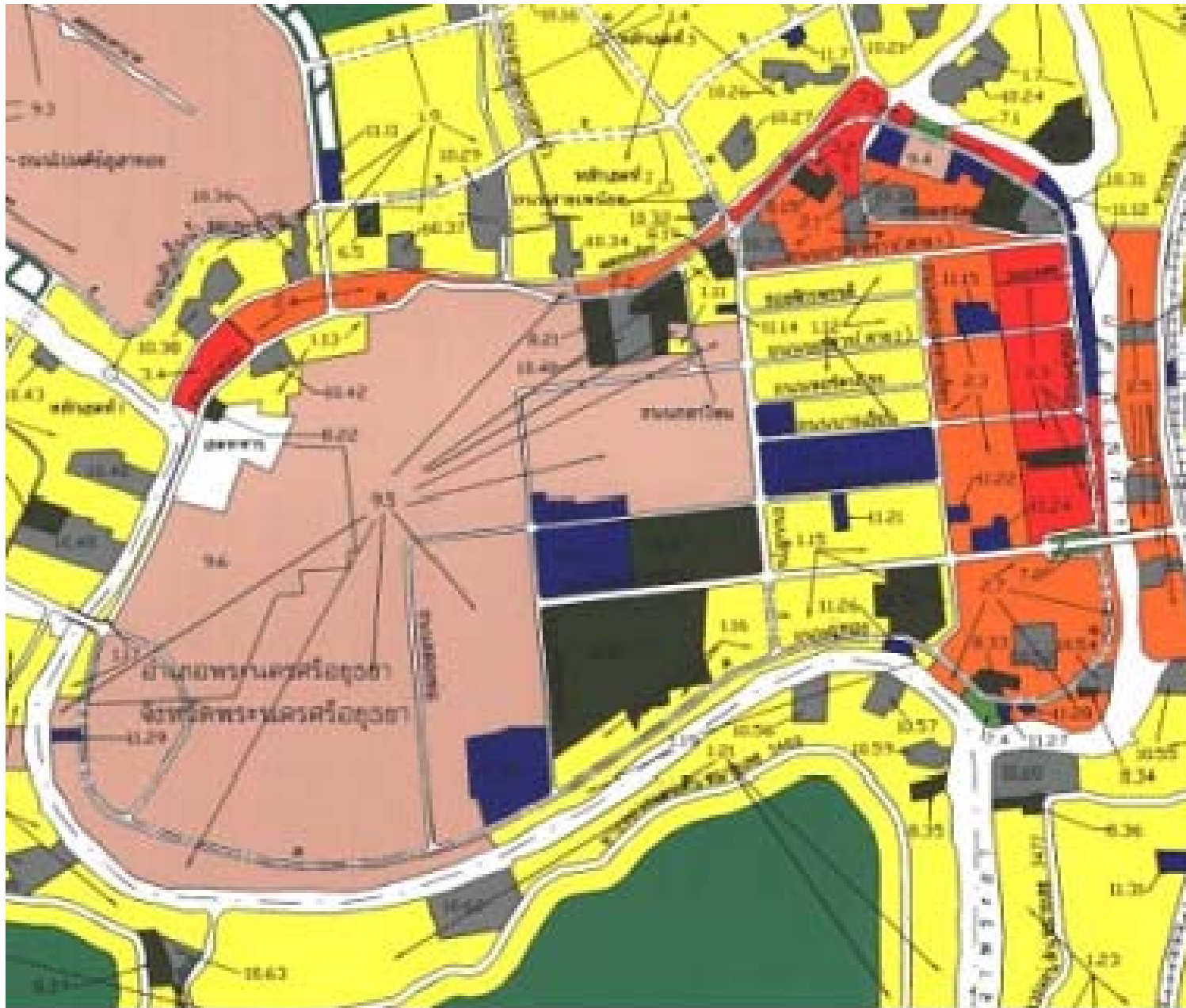


Fig2: Land-use regulation of inner island and fringe of Ayutthaya

Legends of this map

- Low density residential area (Open space rate is more than 15% and without any height regulation)
- Middle density residential area (same as 20% and same one)
- Commercial and High density residential area (same as 25% and same one)
- Thai cultural conservation area (Open space rate is more than 15% and must be traditional buildings)
- Recreation area
- Institute of education area
- Institute of religion area
- Institute of government service, facility and utility area

True definition of Ayutthaya



Fig3: Official map of "Historical park of Ayutthaya" registered by UNESCO

Present situation



There are several bank-less areas even in the "Conservation area"₈

Constructing successive flood protection walls



At "Wat Chai Watthanaram" alongside of river

Flood Disasters in the World Heritage of Ayutthaya

The historical monuments and their flood risk

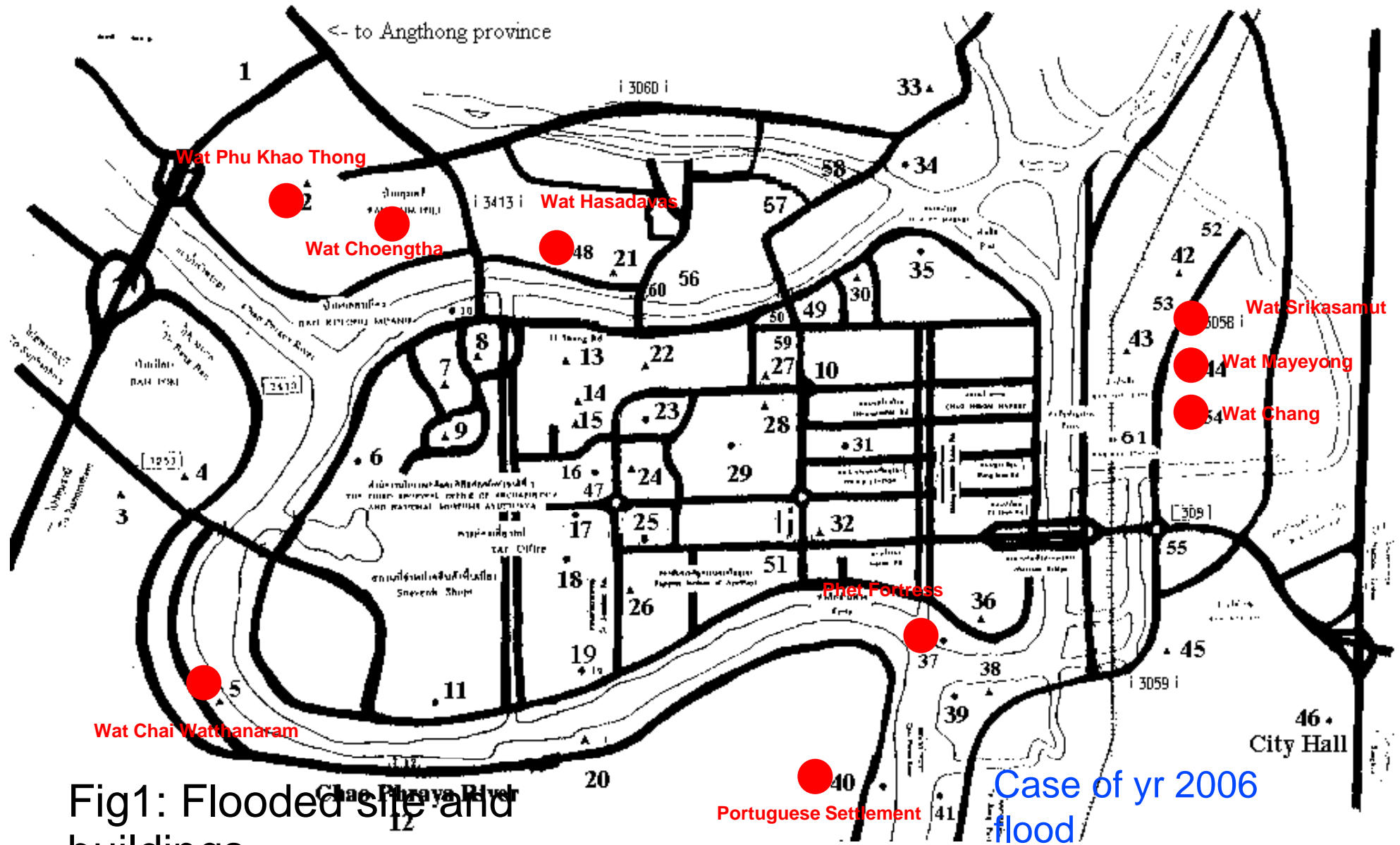


Fig1: Flooded site and buildings

At the Portuguese settlements



They prepare boat, brick wall and portable walls

When flood occurs ... case of yr 2006



Outline of Questionnaire survey and Hearing survey

Date: 20th/ Sept./ 2008

Place: Famous Buddhist temple named "Wat Phra Sri Sanphet"

Correspondents: 25 Foreign tourists, 30 Thai domestic tourists and 40 local residents and shopkeeper

Questions: shown in another file

Results of field survey

1. Averages of each category's annual income are

Foreign tourists: 3,133,355 Baht (93,926 USD, 63,579 Euro)

Thai domestic tourists: 530,067 Baht (15,889 USD, 10,756 Euro)

Local residents: 185,508 Baht (5,561 USD, 3,764 Euro)

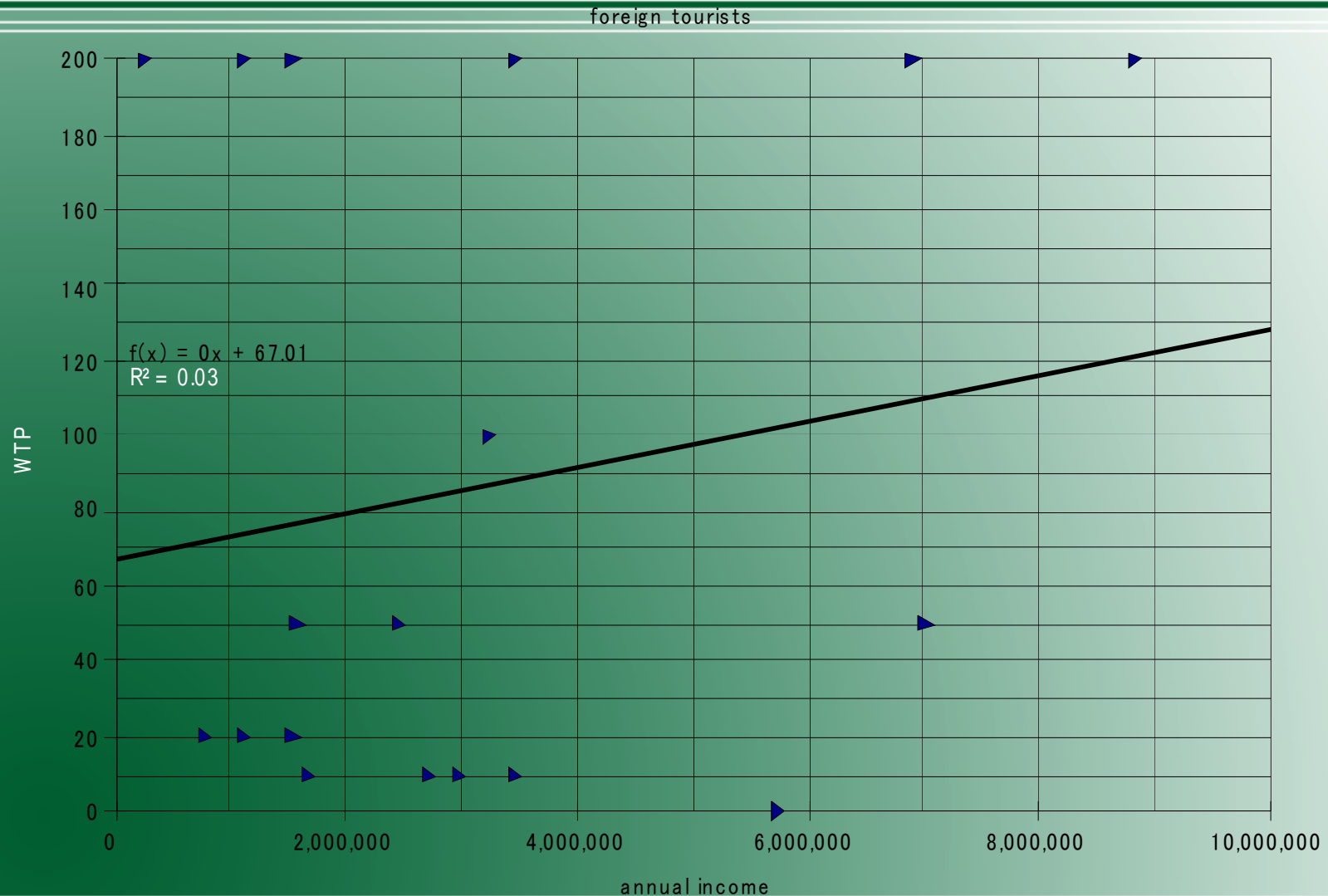
2. Averages of each category's Willingness To Pay (WTP) are

Foreign tourists: 53.6 Baht (1.6 USD, 1.1 Euro)

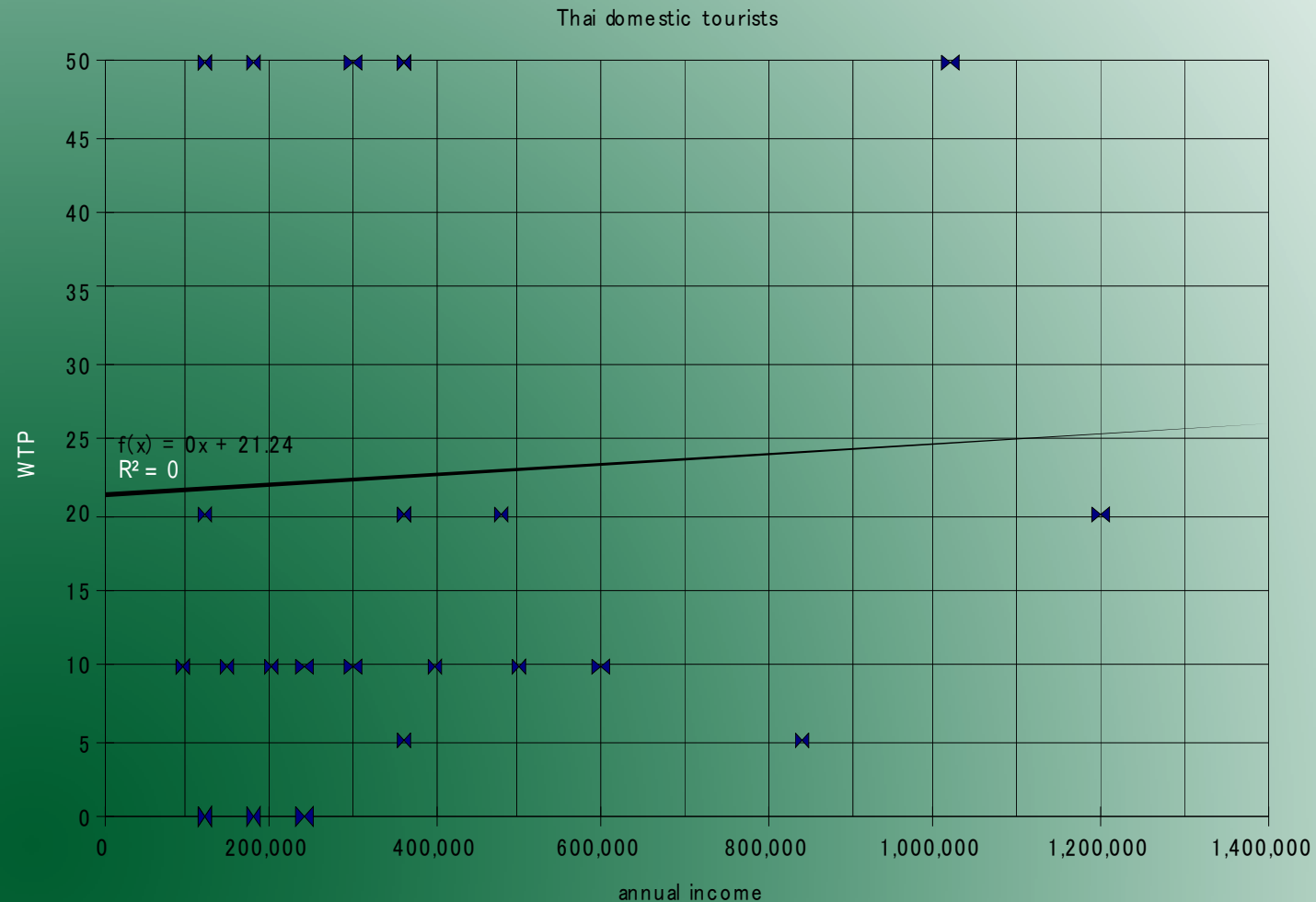
Thai domestic tourists: 23.3 Baht (0.7 USD, 0.5 Euro)

Local residents: 19.5 Baht (0.6 USD, 0.4 Euro)

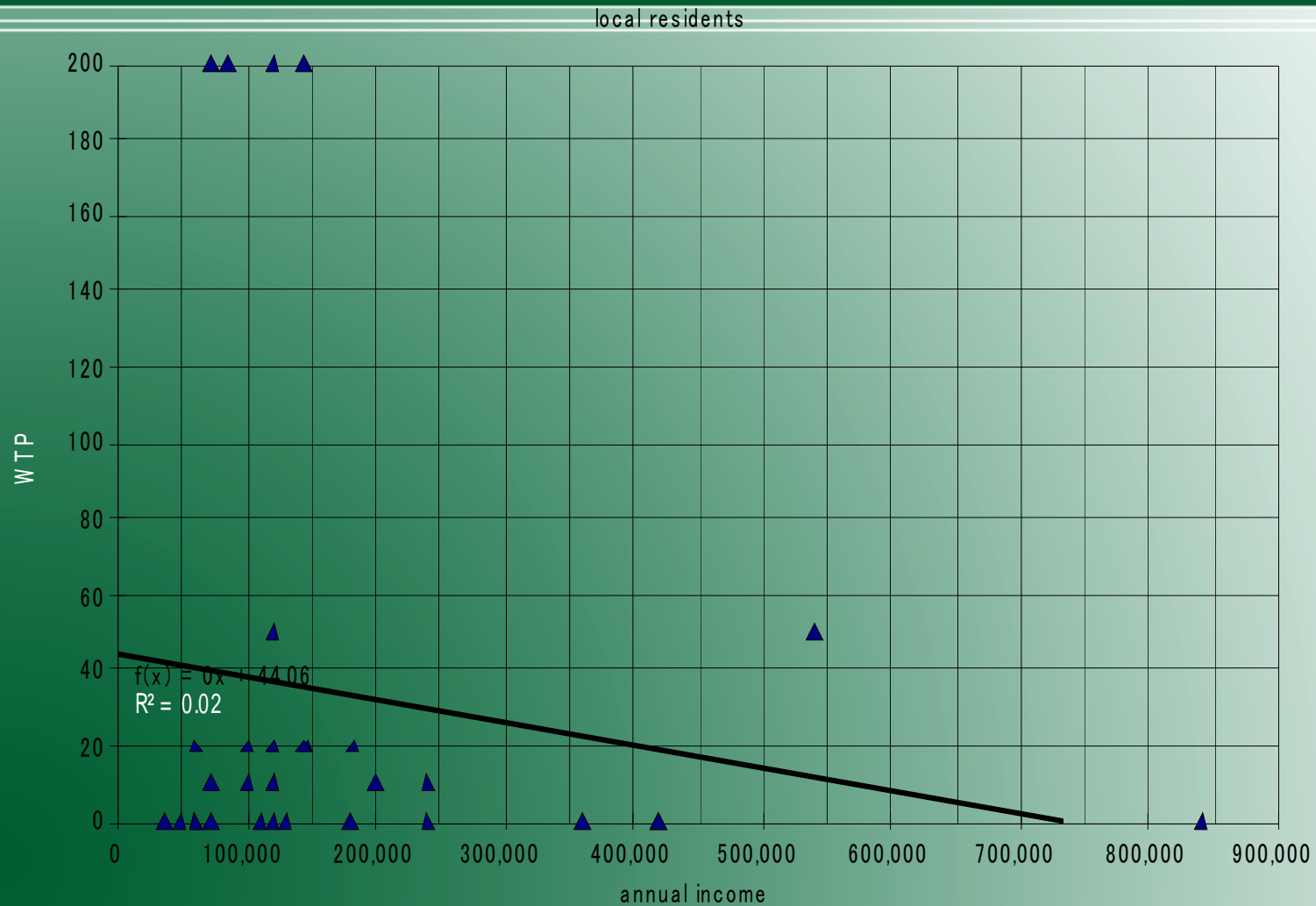
Graph2: Foreign tourists' annual income and WTP



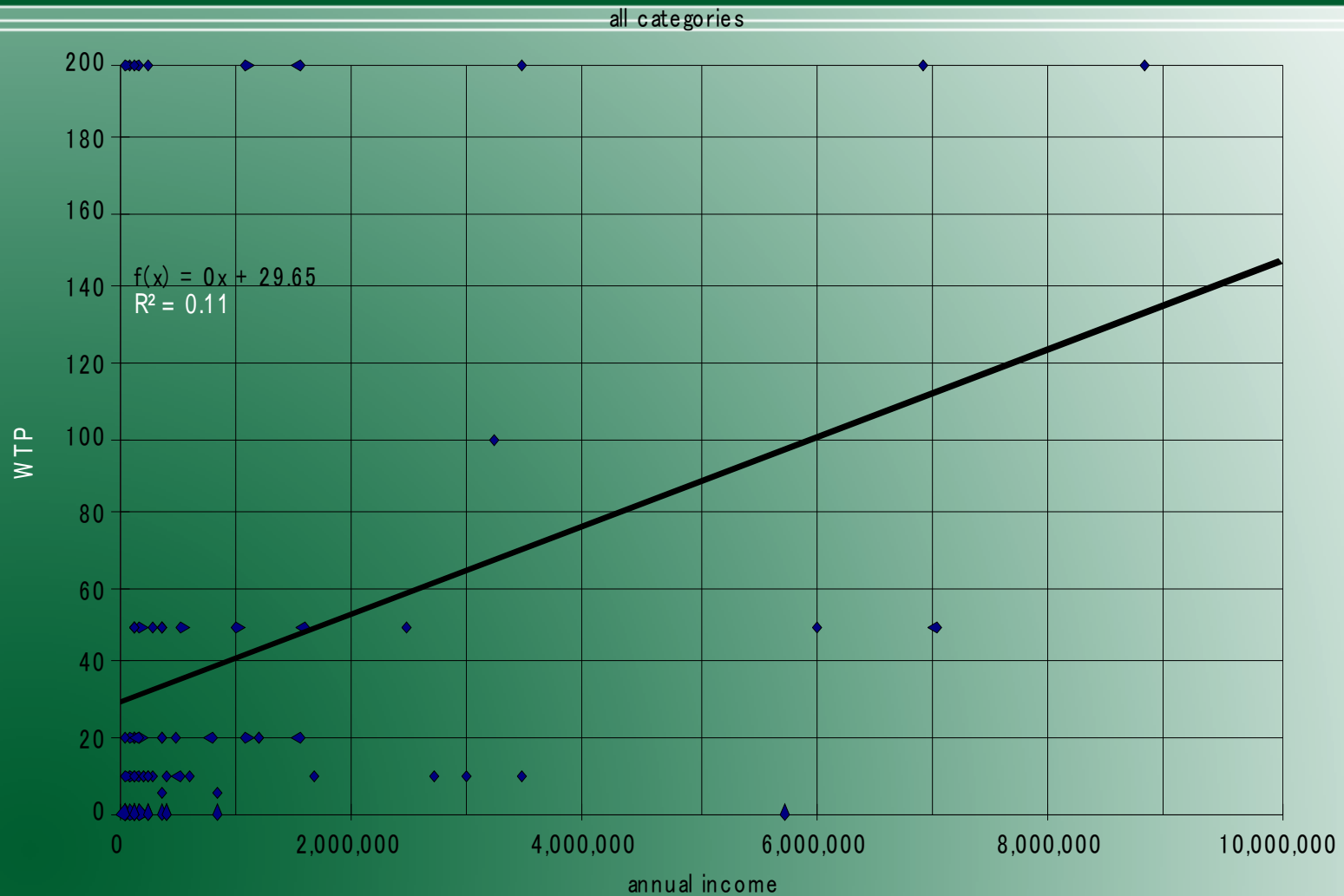
Graph3: Thai domestic tourists' income and WTP



Graph4: Local residents' income and WTP



Graph5: All Correspondents' annual income and WTP



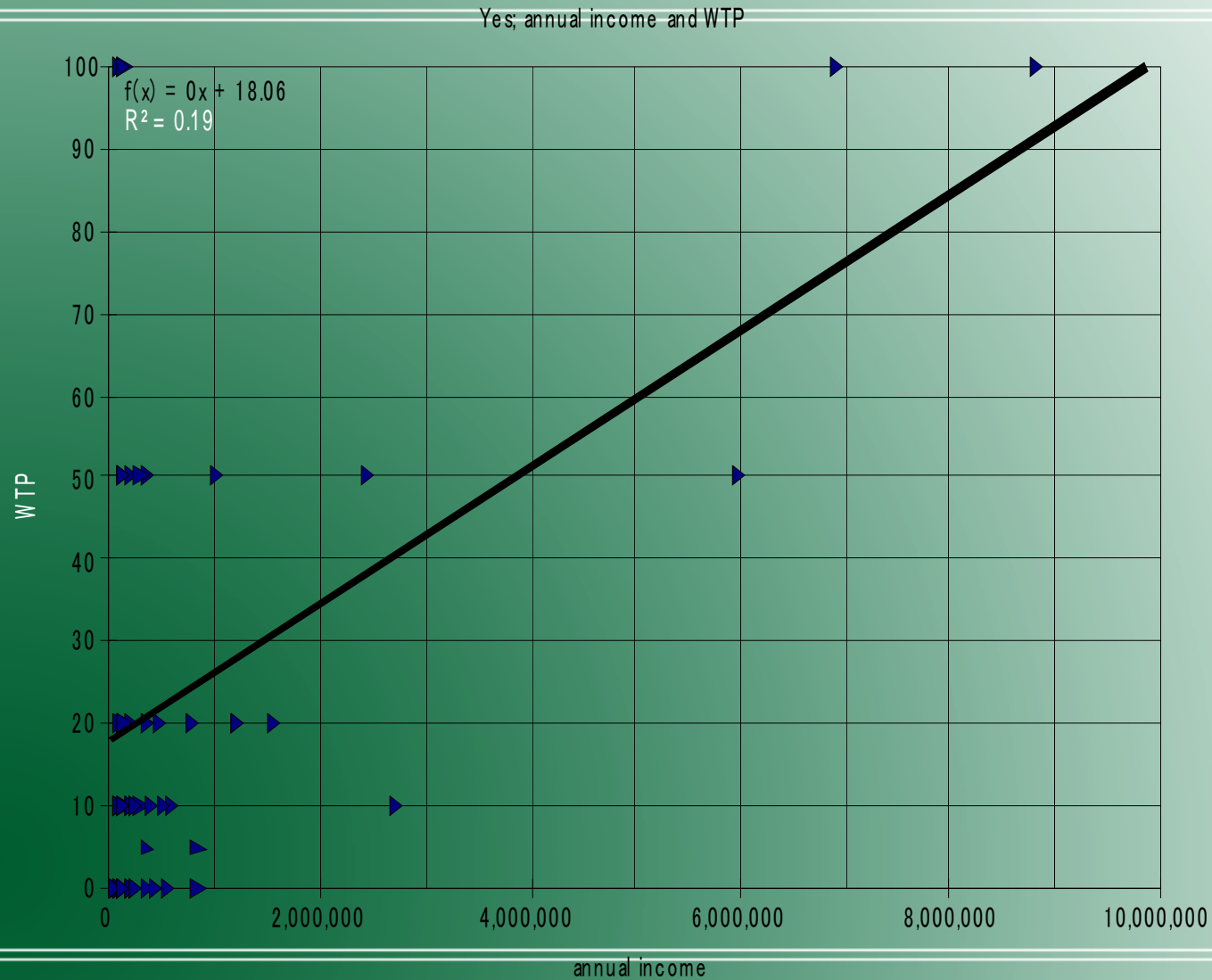
Recognition of flood and WTP

1. Many person who does not know previous flood in Ayutthaya is Foreign tourist. Average of WTP is 62.0 Baht (1.9 USD).

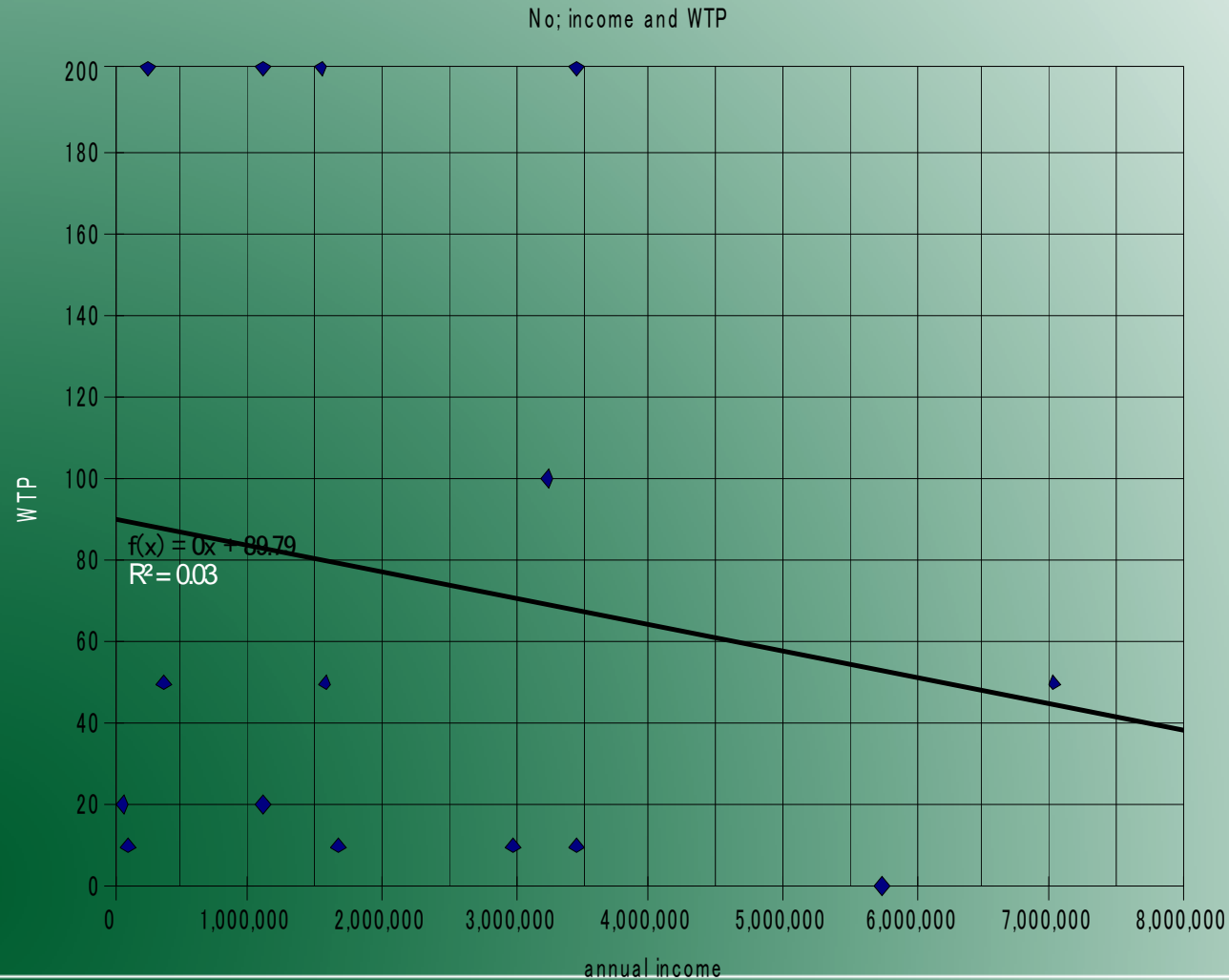
2. Many person who knows about it is Thais. Average of WTP is 24.5 Baht (0.7 USD).

While, Almost all of foreign tourist pay over 62 Baht per person per day as "Entrance fee".

Graph6: Who knows "Yes", their income and WTP



Graph7: Who knows "No", their income and WTP



If we want to indicate Ayutthaya's value as donation ...

We tried to convert from peoples' will to be safer Ayutthaya to monetary index. In generally, people will show his/her free will as "Donation". We estimated Ayutthaya's sightseeing value by using its price.

If all Foreign travelers will pay 50 Baht/ visit/ person, and all Thai domestic tourists will pay 20 Baht/ visit/ person, we can gain 647 million Baht in a year totally.

Meaning of this value estimation

Until now, nobody showed Ayutthaya's sightseeing value. In this study, we showed it by using CVM.

Estimated value will be about 10% of Ayutthaya county's annual income.

This extra payment (donation) must use for flood protection and stop reduction of Ayutthaya's sightseeing value.

Judgment of our hypotheses

Our hypotheses are

"If he/she knows former flood in Ayutthaya, he/she will show higher WTP"

and

"Higher incomer will show higher WTP"

But, both hypotheses are rejected. Why?

Conclusions

* Collecting extra payment is appropriate method to reduce flood loss and to be safer Ayutthaya. But its price will arguable.

* By the way, what will dominant his/her WTP? We thought that is strong will and/or passion. Amount of income and other factors don't dominant his/her will and WTP.

Finally ...

We are very glad if you give us comments,
question, advice and so on.
Please contact us and send an E-mail.

tmizuta@fc.ritsumei.ac.jp