

R code used for creating Figure 2b and 2c:

Figure 2b, 2c plotting

```
ata <- read.csv("Sub_cate_figure.csv", header = TRUE)
data_LCA <- read.csv("LCA_cat.csv", header = TRUE)
data <- data[seq(dim(data)[1],1),]
data_LCA <- data_LCA[seq(dim(data_LCA)[1],1),]

library(ggplot2)
library(tidyr)
library(grid)

data_new <- gather(data = data, key = "Categories", value = "Counts", 2:4)
data_new$Subcategories <- factor(data_new$Subcategories,
                                levels = data$Subcategories)
data_new$Categories <- factor(data_new$Categories,
                              levels = c("Provision.Service",
                                           "Regulating.Supporting.Service",
                                           "Cultural.Service"))

data_LCA$Categories <- factor(data_LCA$Categories, levels=data_LCA$Categories)

plot <- ggplot(data = data_new) +
  geom_col(mapping=aes(x=Subcategories, y=Counts, fill=Categories)) +
  scale_fill_manual(values=c("#c38f16", "#175449", "#67322e"),
                    labels = c("Provision Service",
                                "Regulating/Supporting Service",
                                "Cultural Service")) +
  coord_flip() +
  theme_classic() +
  theme(#rect=element_rect(fill=bg),
        plot.margin=unit(c(1, 3, 1, 3), 'mm'),
        panel.background=element_rect(fill='transparent', color='black'),
        panel.border=element_rect(fill='transparent', color='transparent',
                                   size = unit(0.3,units = "mm")),
        panel.grid=element_blank(),
        axis.line = element_line(colour = 'black', linewidth = unit(0.3,units = "mm")),
        axis.title = element_text(color='black', size=6),
        axis.title.y = element_blank(),
        axis.ticks.length = unit(0,units = "mm"),
        axis.ticks = element_line(color='black'),
        axis.text = element_text(size=6,color='black'),
```

```

axis.title.x.top = element_text(size=6,color='black'),
axis.text.x.top = element_text(size=6,color='black'),
legend.position = c(0.65, 0.15),
legend.title=element_blank(),
legend.key.size = unit(2, "mm"),
legend.text = element_text(size=5),
legend.key=element_rect(fill='transparent',colour='transparent')) +
scale_y_continuous(expand = c(0, 0), limits = c(0, 40))

```

plot # Figure 2b

```

plot_LCA <- ggplot(data = data_LCA) +
  geom_col(mapping=aes(x=Categories, y=Counts, fill=Categories), width = 0.75) +
  scale_fill_manual(values=rep("#2a5173", 7)) +
  scale_y_continuous(expand = c(0, 0), limits = c(0, 20)) +
  coord_flip() +
  theme_classic() +
  theme(
    plot.margin=unit(c(1, 3, 1, 3), 'mm'),
    panel.background=element_rect(fill='transparent', color='black'),
    panel.border=element_rect(fill='transparent', color='transparent', size = unit(0.3,units =
"mm")),
    panel.grid=element_blank(),
    axis.line = element_line(colour = 'black', linewidth = unit(0.3,units = "mm")),
    axis.title = element_text(color='black', size=6),
    axis.title.y = element_blank(),
    axis.ticks.length = unit(0.0,units = "mm"),
    axis.ticks = element_line(color='black'),
    axis.text = element_text(size=6,color='black'),
    axis.title.x.top = element_text(size=6,color='black'),
    axis.text.x.top = element_text(size=6,color='black'),
    legend.position = "None")

```

plot_LCA # Figure 2c